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16. Abstract

This report describes the preparation, contents, and use of a database prepared using the Microsoft Access database software commonly installed on personal computers. MS Access databases can be accessed from many popular analysis software titles, including Statistical Analysis System (SAS), MS Excel, Visual Basic, and others. A number of reports, tables, and queries have been prepared and documented herein showing example uses of the new database. The MS Access implementation enhances but does not replace the previous implementation of the database in the SAS language.

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# Accessing the Rigid Pavement Database Through Microsoft Access

Terry Dossey
B. Frank McCullough

Research Report Number: 0-1778-3
Research Project: 0-1778
Project Title: TxDOT Rigid Pavement Database

Conducted for the
Texas Department of Transportation
in cooperation with the
Federal Highway Administration
by the
Center for Transportation Research
Bureau of Engineering Research
The University of Texas at Austin
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# Disclaimers



B. Frank McCullough, P.E. (Texas No. 19914)
*Research Supervisor*

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Research performed in cooperation with the Texas Department of Transportation.

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# 1. Introduction

## Background

This report describes work performed under Research Project 0-1778 "The Rigid Pavement Database", conducted by the Center for Transportation Research (CTR) of the University of Texas at Austin and funded by the Texas Department of Transportation (TxDOT). The Rigid Pavement Database (RP Database) project contains a vast amount of useful information from a selected group of approximately 1500 test sections comprising a statistical sample of the Portland Cement Concrete Pavement (PCCP) network in the state of Texas. The sections surveyed a primarily Continuously Reinforced Concrete Pavement (CRCP) but there are also a large number of Jointed Concrete Pavement (JCP) sections in the database as well. Condition surveys have been regularly conducted since 1974, and this information has proven to be useful to other research in the areas of pavement performance modeling, pavement design, and pavement management.

The history of the RP Database spans from the 1970's until the present. Details of its origin and evolution may be found in the references (Dossey 87, Dossey 99, Medina 99, Medina 00, and Ruiz-Heurta 94).

Many other studies have used the RP Database over the years (Won 89, McCullough 98 and others); several ongoing studies are using it now, including Project 0-1700 "Improving Portland Cement Concrete Pavements," and Project 0-4398 "Flexible Overlays on CRC Pavements". It is likely that the RP database will continue to be useful in a variety of studies for the foreseeable future, provided funding is available to keep the database maintained, updated, and modified to suit current needs..

## Objectives

The goal of this report is to document and provide information about activities connected with the RP Database. Ongoing activities that need to be tracked are cited and highlighted throughout the different chapters. Particular attention has been paid to special research studies that either have emerged from this RP Database project or have been incorporated into this project because of their relevance and have enriched the contents of the RP Database itself.

**Organization of the Report**

This report is organized as follows:

Chapter 1 gives a brief introduction to the work, provides some background, states the objective of the report, and describes the manner in which the report is organized.

Chapter 2 gives an overview with some detail of the contents of the Rigid Pavement Database, for the purpose of understanding the database design problem and how it may best be approached. This chapter includes descriptions of the data contained in the RP Database, a history of when the data was collected, and the number of data records collected during each survey period.

Chapter 3 presents the conceptual design of the new MS Access database, its relational structure, and how it was populated from the existing SAS database. There is a discussion of relative advantages and disadvantages regarding maintaining the database in SAS vs MS Access.

Chapter 4 presents a detailed description of every variable currently stored in the RP Database, broken down by tables as they are used in MS Access. These descriptions are also instantly available from within the database by switching to the Design View.

Chapter 5 provides a series of examples on how the user may access the new database, both directly from MS Access for simple reports or queries, and from more advanced applications like SAS, Excel, and Visual Basic which are more likely to be employed for more complex analyses and reporting than the simple tools that MS Access provides are capable of. Access via a local area network (LAN) or the Internet is also described.

Chapter 6 contains conclusions and recommendations regarding the future of the RP database, and how it may best be maintained.

# 2. Contents of the Database

## Introduction

In order to design a new version of the Rigid Pavement Database, it is necessary to understand how the RP Database has evolved and what sort of data it currently contains. Any new organization of the data must take into account the relationships between the various data files, considering the changes in the type of information collected and the collection procedures used through the years. As the procedures have evolved, and the focus has shifted from the 100 percent coverage of Texas' rigid pavement network in 1974 to the small but representative sample routinely visited today, so too have the storage methods changed to accommodate the ever increasing amount of information, taking advantage of advances in computer and data processing technology as they became available.

## Background

In 1974 the RP Database was stored on a mainframe CDC Cyber computer at the University of Texas. It was backed up on punched cards and computer tape, processed by a computer the size of a minivan with much less storage and processing power than the desktop computer used to prepare this document. There were no database engines in common use, and the computer language FORTRAN was used to access the data in a sequential fashion. It was not until 1984 that microcomputers were first used to assist in data collection, when a small Macintosh computer, powered from the cigarette lighter of the survey vehicle, was used instead of paper to store field data as the raters collected it.

In 1987, the first real, relational database was assembled from the sequential ASCII files used in the past (Dossey 89). At this time, the SAS language was used to create and maintain the database, running first on an IBM mainframe computer, and within two years, on an IBM PC microcomputer. Because SAS was portable between the mainframe and PC platforms, the RP Database was also portable between the mainframe and PCs for the first time, which has been the case up until the present day. This greatly facilitates the accessibility and utility of the database for many users who would not otherwise be able to use it.

At the same time, a decision was taken to discontinue the 100 percent survey of the state's rigid pavement network in favor of a stratified sampling procedure that visited fewer sections but collected more detailed information. The sampling procedure was carefully worked out at the time so that the data that was collected would continue to be representative of the statewide pavement population. The procedure includes selecting two to six 1000 ft (0.2 mi) survey sections within each selected project across the state. Care was taken to select both the projects and the sections according to an experimental factorial that took into consideration the variables thought to be important to pavement performance; these include such items as pavement thickness, traffic exposure, coarse aggregate type, sub base treatment, climatic factors, and the like (Chou 89).

This was a fundamental change from years past. In order to keep the desired continuous historical record from 1974 intact, it was necessary to sample the prior years' data to match the new, smaller collection factorial. This was done manually by students, from old paper records, and carefully typed into the computer. Fig 2.1 shows the concept.

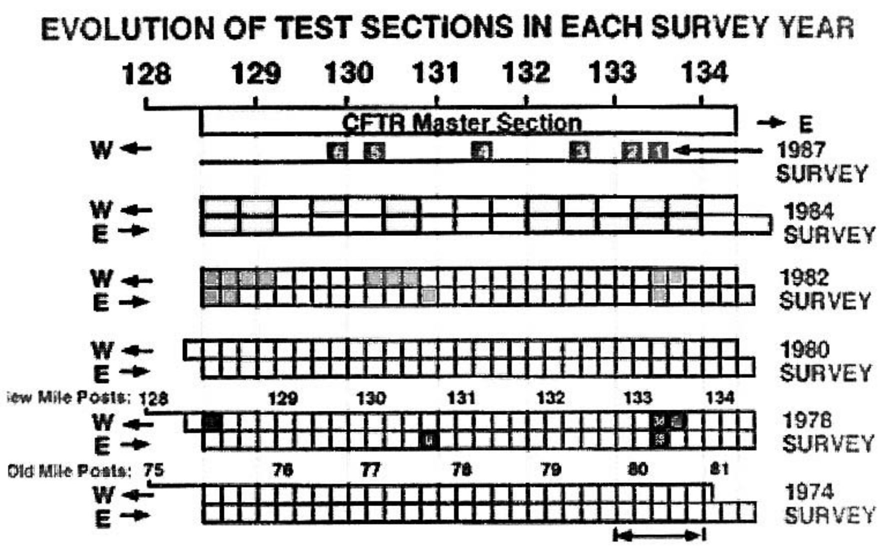



***Figure 2.1 Evolution of a typical RP Database section from 1974 to 1987***

It can be seen from the figure that the paving project was originally surveyed along its entire six mile length; then, in 1987, when the sampling factorial was developed, six survey sections were selected to be continued into the future. Matching data from the previous years was then extracted manually and entered into the database. In the case of the 1984 data, where the survey sections were briefly lengthened to 2000 ft (0.4 mi), the number of each distress was simply divided by two. The shaded sections above correspond to overlaid sections, showing the gradual buildup of distress in the pavement over the 13 years illustrated in the figure.

## Data Collected

Just as the amount of data collected changed over the years, so, too, did the type of data collected. Variables were added or deleted according to research findings correlating distresses, construction parameters, climate variables, traffic, etc. to pavement performance. This was necessary to keep the database relevant and useful. At all times, it was necessary to keep distress definitions and collection procedures consistent, or else the distress trends over time would be meaningless.

There are two main parts of the RP Database: (1) the continuously reinforced concrete pavement (CRCP) data and the jointed concrete pavement (JCP) data. The CRCP data has been collected more or less non-stop since 1974 to the present. The JCP data was collected in 1982 and 1984, discontinued until 1993, and is now being collected again. It was thought in 1984 that JCP use in Texas would decline in favor of CRCP, making it less important to collect additional JCP data.

### *CRCP Data*

Table 2.1 shows the type of data collected for CRCP, and the years it was collected. The "x's" in the table indicate that data was collected for the variable in that row during the survey year indicated in the column header above. For example, it can be seen from the table that spalling data was collected on CRCP pavements up until 1984, discontinued for a time, then resumed in 1998, continuing to the present.

Many distress types were added to the rater form in 1996, corresponding to an increased interest in the performance of asphalt overlay on CRC pavements. Prior to 1996, raters only noted any reflected cracks and punch outs that had come through the AC layer, and gave their general impression of the overlay condition. In 1996 and afterwards, alligator cracking, block cracking, and rutting of the overlay were routinely collected.

### *Table 2.1 Data collection history for crcp sections (Medina 2000)*

| Distress | Type | Severity/ Extent | 1974 | 1978 | 1980 | 1982 | 1984 | 1987 | 1994 | 1996 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cracking | Transverse | Spacing | | | | | | x | x | x | x | x | x | x | x |
| | Longitudinal | Length | x | | | | | | | | x | x | x | x | x |
| | Spalling | Minor | x | x | x | x | x | | | | x | x | x | x | x |
| | | Severe | x | x | x | x | x | | | | x | x | x | x | x |
| | Alligator | Minor | | | | | | | | x | x | x | x | x | x |
| | | Severe | | | | | | | | x | x | x | x | x | x |
| | Block | Minor | | | | | | | | x | x | x | x | x | x |
| | | Severe | | | | | | | | x | x | x | x | x | x |
| | Faulting | Minor | | | | | | | | | x | x | x | x | x |
| | | Severe | | | | | | | | | x | x | x | x | x |
| Corner Break | | | | | | | | | | x | x | x | x | x | x |
| D-Cracking | | | | | | | | | | | x | x | x | x | x |
| Rutting | | Shallow | | | | | | | | x | x | x | x | x | x |
| | | Deep | | | | | | | | x | x | x | x | x | x |
| Patching | AC | 0-50 $ft^2$ | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | | 51-150 $ft^2$ | | | | | | | | x | x | x | x | x | x |
| | | >150 $ft^2$ | | | | | | | | x | x | x | x | x | x |
| | PCC | 0-50 $ft^2$ | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | | 51-150 $ft^2$ | | | | | | | | x | x | x | x | x | x |
| | | >150 $ft^2$ | | | | | | | | x | x | x | x | x | x |
| Punchout | | Minor | x | x | x | x | x | x | x | x | x | x | x | x | x |
| | | Severe | x | x | x | x | x | x | x | x | x | x | x | x | x |
| GPS coordinates | | | | | | | | | | | x | x | x | x | x |

### *JCP Data*

In a similar but much more limited fashion, JCP survey data has been collected since 1982 and continues to be collected, after a hiatus from 1984 to 1993. Table 2.2 shows the type of data collected and the years it was taken. It can be readily seen from the Table that there are four years of JCP condition data in the database, namely 1982, 1984, 1993, and 1998. The 1982 and 1984 JCP data are a 100 percent sample like the older CRCP data, and are in fairly poor shape, particularly the 1984 data which was never processed or cleaned up after the survey.

*Table 2.2 Evolution of JCP condition surveys (Medina 1999)*

| JCP Condition Survey History | | | Number of test sections surveyed each year | | | |
|---|---|---|---|---|---|---|
| | | | 4,019 | <500 | 135 | 137 |
| Distress | Type | Intensity | 1982 | 1984 | 1993 | 1998 |
| Cracking | Transverse | Minor | . | . | . | . |
| | | Severe | . | . | . | . |
| | Longitudinal | | | | | . |
| | Localized | Minor | . | . | . | . |
| | | Severe | . | . | . | . |
| Spalling | | Minor | . | . | . | . |
| | | Severe | . | . | . | . |
| Corner breaks | | | . | . | . | . |
| Pumping | | Minor | . | . | | |
| | | Severe | . | . | | |
| Punchouts | | Minor | | | . | . |
| | | Severe | | | . | . |
| Patch | AC | | . | . | . | . |
| | PCC | | . | . | . | . |
| Crack Spacing | Transverse | | | | . | . |
| Reflected Cracks | Overlaid Pavements | | | | . | . |
| Overlay Bond Failure | Overlaid Pavements | | | | | |
| Alligator Cracking | Asphalt Overlays | | | | . | . |
| Block Cracking | Asphalt Overlays | | | | . | . |
| Longitudinal Cracking | Asphalt Overlays | | | | . | . |
| Rutting | Asphalt Overlays | | | | | |
| GPS coordinates | Latitude & Longitude | | | | | . |

### *Additional Data*

On several occasions, additional data has been collected and stored with the RP database. This sort of data is generally collected on a one-time, non-repeating basis and is not integrated with the rest of the database, simply kept for possible future use. Sometimes this data has been referred to as a "satellite factorial," and has been used by various research projects over the years.

One example of this type of data is the deflection data taken with the Falling Weight Deflectometer (FWD) in 1987. A large amount of data was gathered and carefully processed to study the structural support under overlaid and non-overlaid CRC pavements. The methodology for the data collection, and the analysis performed using the data are well documented (Weissmann 89). The data stored is documented as well (Dossey 89), but no further use of this data has been made since that time. It is related by key field to the rest of the RP database and can be accessed at any time. Primarily, however, it serves as the beginning of a possible Non-Destructive Test (NDT) section of the database which may become important in the near future.

In a similar way, crack width measurements were taken on CRC pavements in the late 80's to study whether steel reinforcement levels were adequate to prevent moisture infiltration into the pavement (Fig 2.2) (Weissmann 89). This data was used to good advantage at the time, and remains as a satellite factorial in the RP database to this day.

***Figure 2.2 Crack width measurements taken in 1987-1988***

Where desirable, satellite factorials are merged into the main database and follow up data is collected. For example, Projects 1244 and 3925 (McCullough 98) followed the construction of experimental sections in Houston District on SH-6, BW-8, IH-45, and US-290. These test sections employed a wide range of variables to determine their effect on pavement performance. Some of the factors were aggregate type, steel percent, winter/summer construction, day/night paving, early saw cutting, and more. A great deal of detailed information was collected for these sections prior to and during construction. After the research projects had ended, it was thought wise to follow the performance of these unique sections indefinitely, and thus they were added to the regularly surveyed sections in the RP Database. All of these particular sections bear the designation 125xx to distinguish them from the rest of the database.

## Summary

The RP database contains a wide range of pavement performance related data for both continuous and jointed pavements across the state of Texas. It has been collected on a more or less continuous basis from 1974 until the present, with the level of collection effort depending on the interest and funding levels current to each time. It underwent a fundamental change in 1987 when it was no longer needed as a network level database on which pavement management decisions would be made. Now, it is a project level database that primarily serves research needs, which requires a more detailed level of data collection on fewer but carefully chosen sections.

As the mission of the database has changed, it has become more responsive to research needs and thus the sections visited and the type of data collected have had to change with the years as well. Always, though, continuity has been maintained so that the database can present a continuous history of pavement performance over the 25 year span it covers. The software managing the data has changed several times over that period, and is likely to change again to take advantages of developments in computer hardware and software. With that understanding, Chapter 3 will present the redesign of the RP database into MS Access format.

# 3. Organization and Design of the Access Database

## Introduction

The purpose of any database is to store data in an organized fashion so that it may be retrieved easily and efficiently for whatever use the data might reasonably be put to. This is best done using a top down design wherein the structure and organization of the database is determined by the use that will be required of it; function dictating form. Because the RP database has been in use in various forms for 29 years, there is a fairly good understanding of how it is likely to be used in the future, what needs it must meet, and thus the form of the database is strongly suggested by what has been done in the past. Sufficient flexibility, though, must be built in to assure the database will be able to respond to unanticipated needs for at least 4-5 years into the future after which time a redesign may be needed again.

The software engine that controls the storage of and access to the data is called the *database management system.* There are many such systems in use today, including the Statistical Analysis System (SAS, 2000), by which the RP database has been maintained from 1987 to the present, and Microsoft Access (Simpson, 1997) which will host the new system as described below. MS Access was suggested by the research sponsor primarily because it is so widely available, being furnished as an integral part of the Microsoft Office suite of programs which is installed on nearly every personal computer in use today. MS Access is also integrated into the Microsoft Office family, which means that it can be fairly readily accessed by other Microsoft products such as Excel, Word, Visual Basic, etc…. MS Access can be queried using SQL (standardized query language) which is a query protocol accepted and implemented by nearly all software publishers. Thus, MS Access affords some degree of standardization to the process.

All database management systems have some inherent similarities that make creating databases and accessing them a more or less familiar process when switching from one to another. For example, as will be shown in detail below, data is stored in tables, a familiar row and column arrangement with each observation in a row and each variable observed in its own column. Multiple tables are linked by key fields relating their contents. The *primary key field,* which is present in all tables, serves as the main identifier for the data linking all tables. The purpose of multiple tables, as opposed to one large table, is to avoid redundant storage of repeating data; this is known in database terminology as a *one to many relationship.*

How these concepts relate to the organization of the Rigid Pavement Database will be shown in detail in the following sections.

## Objectives

The objective, therefore, of the database redesign is to take the existing data, currently maintained in SAS format, and convert it to an MS Access design that can be used with little training by an engineer or researcher to create tables of data or reports suitable to their particular needs. They must also be able to use the database with only the software that is included as part of the MS Office software suite. In order to accomplish this goal, the following sub-objectives must be met:

- The existing data must be exported from SAS format to MS Access (mdb) format
- Tables must be designed in MS Access to accommodate the data
- Queries must be constructed to help the novice user access the data
- Simple reports must be pre-programmed for the novice user to quickly see the data
- Portability between applications must be established so that existing analysis programs may still access the data
- A facility for editing the data in the new format must be established
- The ability to easily add new data must be provided for
- A user manual should be provided to help users understand the system

## Existing SAS database

Chapter Two presents the contents of the existing RP database, which is currently maintained in the SAS system. After seeing what data is contained, what variables exist, and how and when they were collected, it is now necessary to examine the organization of the SAS database so that useful input into the MS Access database design can be obtained.

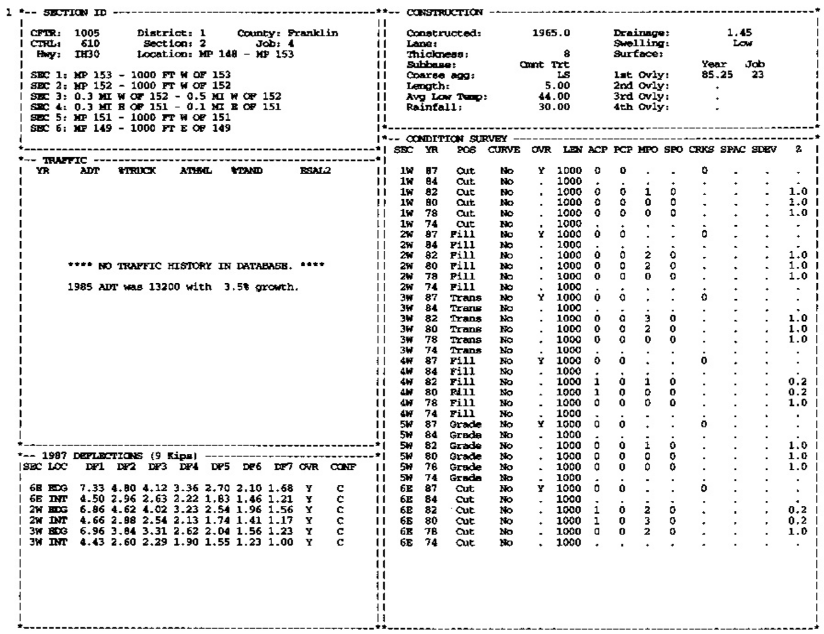
### *Organization*

Perhaps the easiest way to understand the present organization of the RP database is to look at the *one page summary report,* which is currently used to display the complete contents of the database for each pavement section summarized on a single page. Fig 3.1 shows a page printed from this report, each section of which will then be discussed in some detail.

The purpose of the one page summary report is to help the user visualize the contents of the database, which, in their entirety are far too large to appear on a single page. In addition, the database is stored as a collection of tables (both in the SAS format and the new, Access format) which are tied together or related by a common key. The one page summary report accesses every table and presents a summary of the information from each on a single page, using a box format to indicate which group or table the data is from. Some groups are highly summarized (deflection data, for example) and other groups are presented completely (e.g. section location data).

Fig 3.1 is used here only to illustrate the organization of the database. For the convenience of the reader, who may wish to see some actual pages from the summary report in full detail, Appendix A contains eight actual pages from the report printed full scale. The entire report consists of more than 500 pages, which is much too large to include in this document even as an appendix. It is, however, available on request either in paper form or on CD ROM. It can also be accessed on the CTR server via the Internet as will be demonstrated in Chapter 4 along with many other examples of accessing the RP database.

The format of the one page summary report contained in Appendix A has been changed somewhat from the format used in Fig 3.1, but the contents are the same. Appendix B lists the SAS program used to generate the report.



**SECTION ID**

CFTR: 1005    District: 1    County: Franklin
CTRL: 610    Section: 2    Job: 4
Hwy: IH30    Location: MP 148 - MP 153

SEC 1: MP 153 - 1000 FT W OF 153
SEC 2: MP 152 - 1000 FT W OF 152
SEC 3: 0.3 MI W OF 152 - 0.5 MI W OF 152
SEC 4: 0.3 MI E OF 151 - 0.1 MI E OF 151
SEC 5: MP 151 - 1000 FT W OF 151
SEC 6: MP 149 - 1000 FT E OF 149

**CONSTRUCTION**

| | | | | |
|---|---|---|---|---|
| Constructed: | 1965.0 | Drainage: | 1.45 | |
| Lane: | | Swelling: | Low | |
| Thickness: | 8 | Surface: | | |
| Subbase: | Cmnt Trt | | Year | Job |
| Coarse agg: | LS | 1st Ovly: | 85.25 | 23 |
| Length: | 5.00 | 2nd Ovly: | . | |
| Avg Low Temp: | 44.00 | 3rd Ovly: | . | |
| Rainfall: | 30.00 | 4th Ovly: | . | |

**TRAFFIC**

| YR | ADT | %TRUCK | ATHWL | %TAND | ESAL2 |
|---|---|---|---|---|---|

**** NO TRAFFIC HISTORY IN DATABASE. ****

1985 ADT was 13200 with 3.5% growth.

**CONDITION SURVEY**

| SEC | YR | POS | CURVE | OVR | LEN | ACP | PCP | MPO | SPO | CRKS | SPAC | SDEV | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1W | 87 | Cut | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 1W | 84 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1W | 82 | Cut | No | . | 1000 | 0 | 0 | 1 | 0 | . | . | . | 1.0 |
| 1W | 80 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | 1.0 |
| 1W | 78 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | 1.0 |
| 1W | 74 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2W | 87 | Fill | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 2W | 84 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2W | 82 | Fill | No | . | 1000 | 0 | 0 | 2 | 0 | . | . | . | 1.0 |
| 2W | 80 | Fill | No | . | 1000 | 0 | 0 | 2 | 0 | . | . | . | 1.0 |
| 2W | 78 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | 1.0 |
| 2W | 74 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 3W | 87 | Trans | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 3W | 84 | Trans | No | . | 1000 | . | . | . | . | . | . | . | . |
| 3W | 82 | Trans | No | . | 1000 | 0 | 0 | 3 | 0 | . | . | . | 1.0 |
| 3W | 80 | Trans | No | . | 1000 | 0 | 0 | 2 | 0 | . | . | . | 1.0 |
| 3W | 78 | Trans | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | 1.0 |
| 3W | 74 | Trans | No | . | 1000 | . | . | . | . | . | . | . | . |
| 4W | 87 | Fill | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 4W | 84 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 4W | 82 | Fill | No | . | 1000 | 1 | 0 | 1 | 0 | . | . | . | 0.2 |
| 4W | 80 | Fill | No | . | 1000 | 1 | 0 | 0 | 0 | . | . | . | 0.2 |
| 4W | 78 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | 1.0 |
| 4W | 74 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 5W | 87 | Grade | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 5W | 84 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 5W | 82 | Grade | No | . | 1000 | 0 | 0 | 1 | 0 | . | . | . | 1.0 |
| 5W | 80 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | 1.0 |
| 5W | 78 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | 1.0 |
| 5W | 74 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 6E | 87 | Cut | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 6E | 84 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |
| 6E | 82 | Cut | No | . | 1000 | 1 | 0 | 2 | 0 | . | . | . | 0.2 |
| 6E | 80 | Cut | No | . | 1000 | 1 | 0 | 3 | 0 | . | . | . | 0.2 |
| 6E | 78 | Cut | No | . | 1000 | 0 | 0 | 2 | 0 | . | . | . | 1.0 |
| 6E | 74 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |

**1987 DEFLECTIONS (9 Kips)**

| SEC | LOC | DF1 | DF2 | DF3 | DF4 | DF5 | DF6 | DF7 | OVR | CONF |
|---|---|---|---|---|---|---|---|---|---|---|
| 6E | EDG | 7.33 | 4.80 | 4.12 | 3.36 | 2.70 | 2.10 | 1.68 | Y | C |
| 6E | INT | 4.50 | 2.96 | 2.63 | 2.22 | 1.83 | 1.46 | 1.21 | Y | C |
| 2W | EDG | 6.86 | 4.62 | 4.02 | 3.23 | 2.54 | 1.96 | 1.56 | Y | C |
| 2W | INT | 4.66 | 2.88 | 2.54 | 2.13 | 1.74 | 1.41 | 1.17 | Y | C |
| 3W | EDG | 6.96 | 3.84 | 3.31 | 2.62 | 2.04 | 1.56 | 1.23 | Y | C |
| 3W | INT | 4.43 | 2.60 | 2.29 | 1.90 | 1.55 | 1.23 | 1.00 | Y | C |

***Figure 3.1 The SAS one page summary report for the Rigid Pavement Database***

As shown in Fig 3.1, the summary report is divided into boxes representing the individual tables which comprise the RP database. Each table will now be discussed to describe how the contents of the database are organized. This organization will carry over to the new Access database implementation.

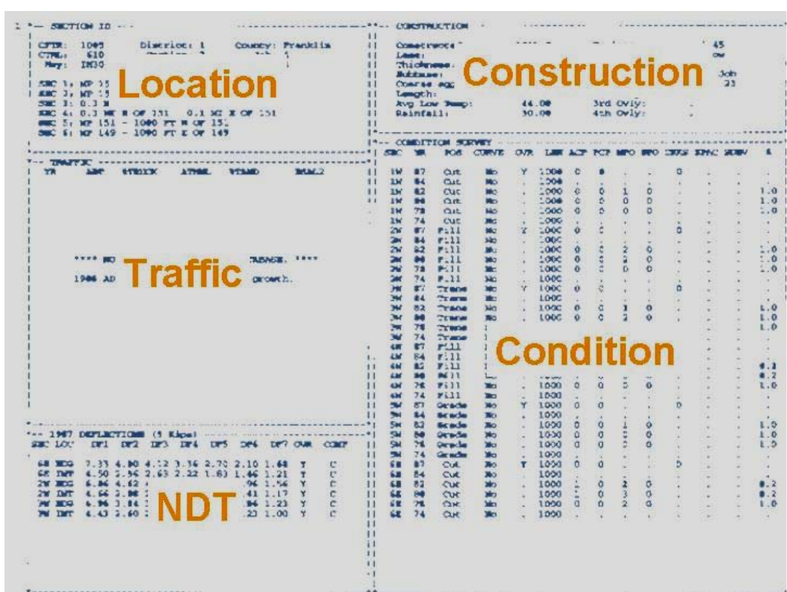



***Figure 3.2 Organization of information in the one page summary report***

Referring to Fig 3.2, the basic layout of the report (and of the database itself) is as follows:

***Table 3.1 Database tables***

| Section | Contents |
|---|---|
| Location | Identification for the survey sections. Gives unchangeable location information for every section in the database. |
| Construction | All other data that applies to every section in the project, including construction details and environmental data. |
| Condition | Condition survey for each 1000 ft section, for every year surveyed. |
| NDT | Any NDT data available, currently only FWD deflections. |
| Traffic | Yearly traffic data as available, including ADT and wheel loadings (estimated) |

Fig 3.3 describes the location information in the RP database. The CFTR number is the master key relating all database tables to each other. Control, Section and Job are TxDOT designations commonly used in plans and construction, and are kept in the database to facilitate matching construction records. One use of this is updating construction records from "as built" books at the Districts. County and District are kept here for convenience, and District is maintained both as a number (old style) and name. The number is frequently needed to match old records. Reference markers are used to locate the section precisely, as are GPS latitude and longitude coordinates. The GPS coordinates have been updated several times as the technology improves. Current accuracy is approximately plus or minus 30 ft.

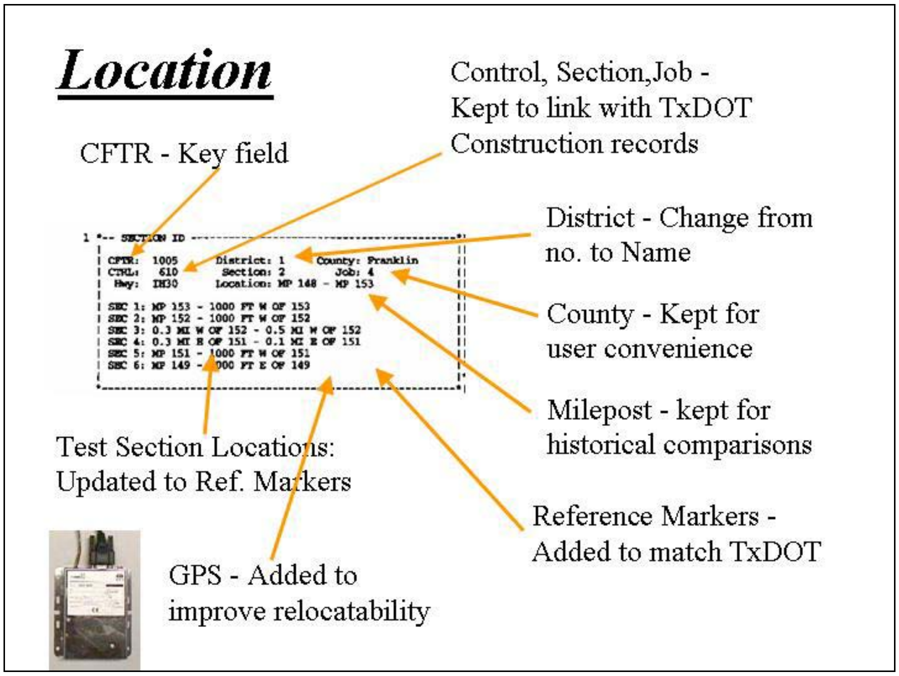



***Figure 3.3 Location (master file) table in the RP database***

Appendix C contains the entire contents of the location table, organized by the TxDOT reference marker system. Appendix D lists the same sections by GPS latitude and longitude.

Fig 3.4 shows the contents of the construction table in the RP database. As noted previously, this is actually not limited to construction data but also includes all static (and some dynamic) data pertaining to the entire project from which the test sections are taken. As in all tables, the CFTR or key field is included which ties the tables together. Construction data includes the date of construction, pavement thickness, sub base type, coarse aggregate used, soil swelling condition, and other variables describing the physical pavement. A rudimentary record of subsequent work on the project is kept as date of overlays, so that the performance of the section can be monitored, as well as any improvement in condition due to the overlay is explained.

Finally, pertinent, detailed environmental data has been collected and placed in the database. This information includes, but is not limited to, annual rainfall (an important predictor of some types of distress), high and low temperature during construction, estimated evaporation during construction (a good indicator for some distresses such as spalling), and the annual minimum temperature (affects minimum crack spacing). These variables were extracted from

NOAA weather files on the internet and carefully matched to each section in the database using the construction date in the file.

Appendix E lists all available information from the Construction table.

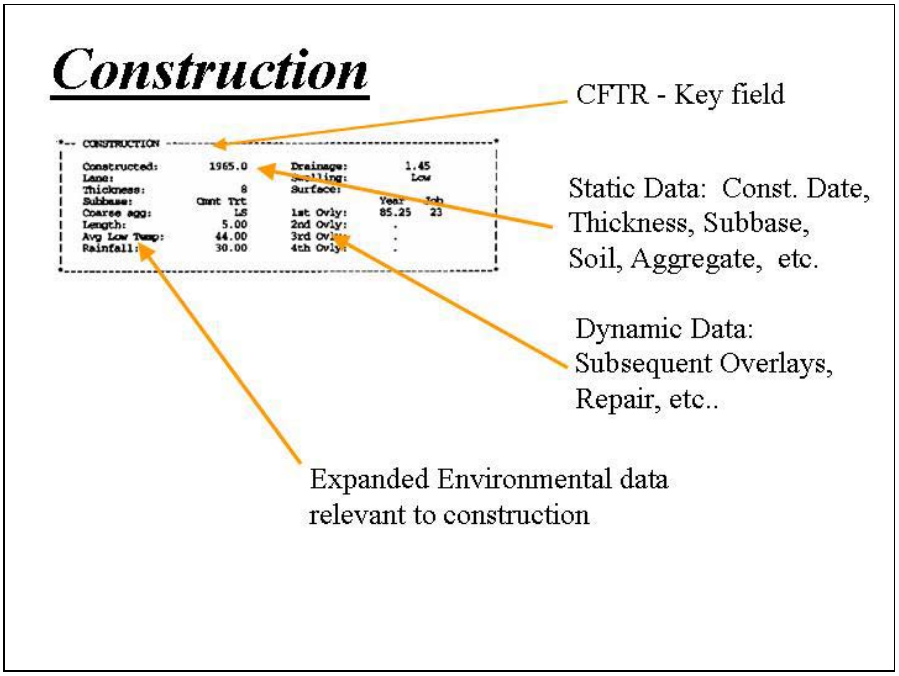



***Figure 3.4 Construction table in the RP database***

Fig 3.5 shows the condition survey table of the database. This is by far the largest part of the RP database, containing records for every section of every project surveyed, added to every time the field crew has surveyed the sections from 1974 to the present.

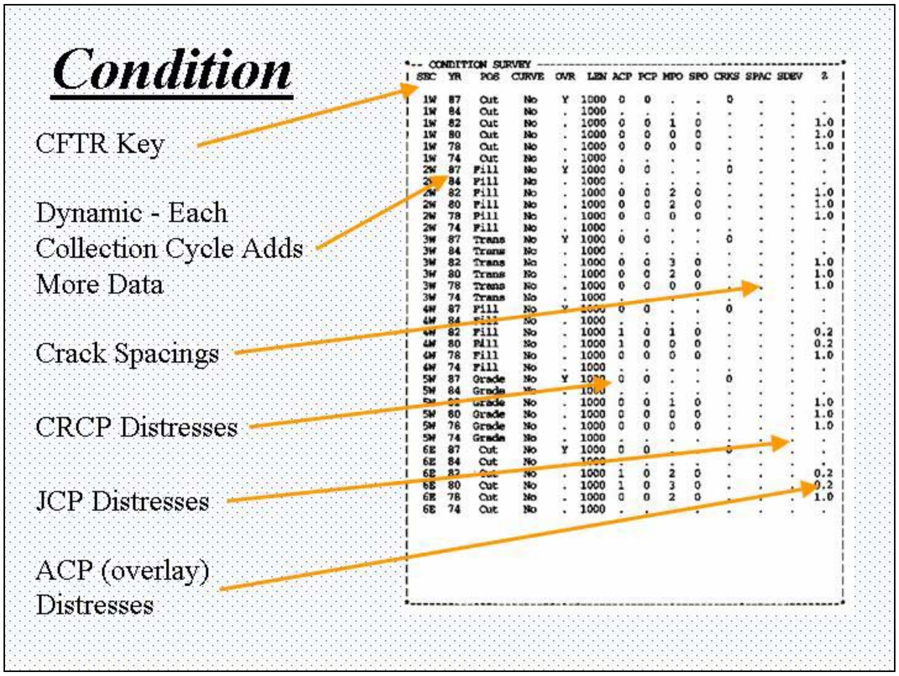



***Figure 3.5      Condition table in the RP database***

As with the other tables, the condition table contains the same CFTR master key used to relate all tables to each other. The table is dynamic, adding a record each year a condition survey is performed. It can be seen in the figure that some sections contain condition survey data from as far back as 1974, continuing to the present day. This provides a historical record of pavement condition over time that has proven to be very useful to pavement research over the years.

Additional fields include cut/fill position of the section (indicating underlying soil condition which has been shown to be related to performance), curve or straight, overlaid or not at the time of the survey (visually determined by the rater), section length (sometimes less than the desired 1000 ft), and the presence or absence of various distresses including punchouts, patches, crack spacing, etc. The z score column shows a calculated index indicating the overall condition of the section (Chou, 1988).

Note that the distresses indicated on the form vary with the type of pavement rated. Thus, continuously reinforced concrete (CRC) sections will not include the additional distresses occurring on jointed pavements, such as corner breaks, faulting, poor joint condition, etc.

The entire MS Access report for the condition table is approximately 500 pages long, but Appendix F contains the first dozen pages or so to illustrate the output from the report. The SAS based one page summary report also contains this data, sampled in Appendix A.

Non-destructive testing data contained in the RP database is shown in Fig. 3.6. At the present time, only some Falling Weight Deflectometer data is stored in this table of the database, but space has been reserved to collect and store information collected using promising new NDT technologies such as the PSPA (portable seismic profile analyzer) and GPR (ground penetrating radar).

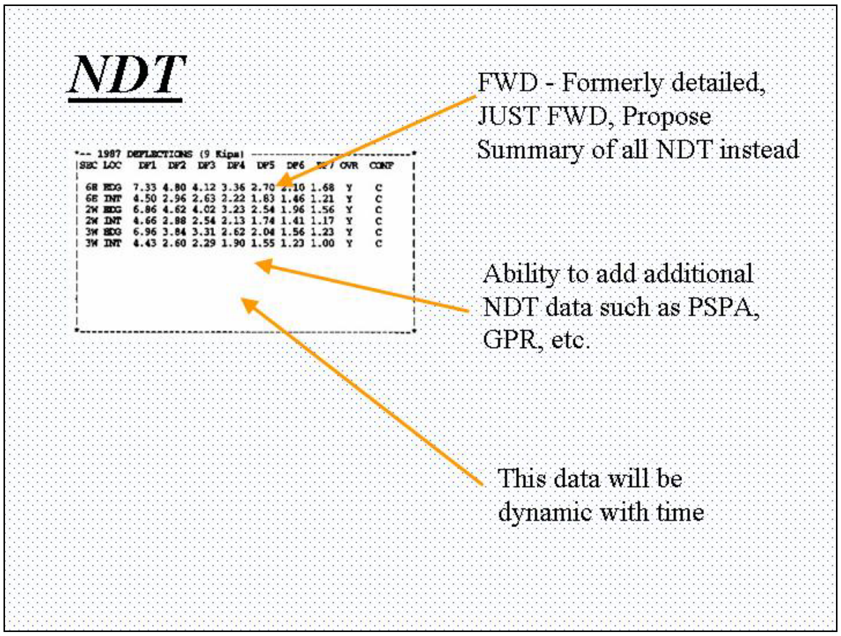



***Figure 3.6 NDT table in the RP database***

These NDT tables are unique in that the contents will vary depending on the device that was used to collect the data. In the case of the FWD data illustrated above, the data has been summarized greatly from the large files actually stored in the database. The purpose of this is to show some useful information in the relatively small space afforded on the one page summary report. It should be remembered that all of the data is available in the database regardless of how it has been summarized or abbreviated in the report.

Referring again to Fig 3.6, the variables shown for FWD are LOC (interior or edge test), and sensors one through seven (sensor 1 being under the FWD load, the others progressively farther back). Configuration describes how the geophones were set up, with some configurations having sensor 2 in front of the load instead of behind it. For a full listing of configurations and their descriptions, see (Dossey 89).

Finally, the section variable indicates which of the survey sections (including direction of travel) were tested for deflection with the FWD. The FWD testing was performed only on a few sections of interest, usually across a crack to estimate load transfer. OVR indicates whether the section under test was overlaid (AC riding surface) or not.

Fig 3.7 shows the organization of the Traffic table in the RP database. Traffic data is obtained from several sources, including TxDOT yearly ADT maps for the state, from TxDOT traffic division records (sometimes including WIM stations), and sometimes requiring estimates using ESAL models developed under Project 472 (Dossey 89).

Variables in the table include the CFTR key field, ADT (annual average daily traffic) from ADT maps, and whatever detailed traffic data is available from other sources. If there is no data in the database for traffic, the 1987 ADT and projected growth rate is usually available for a rough estimate.

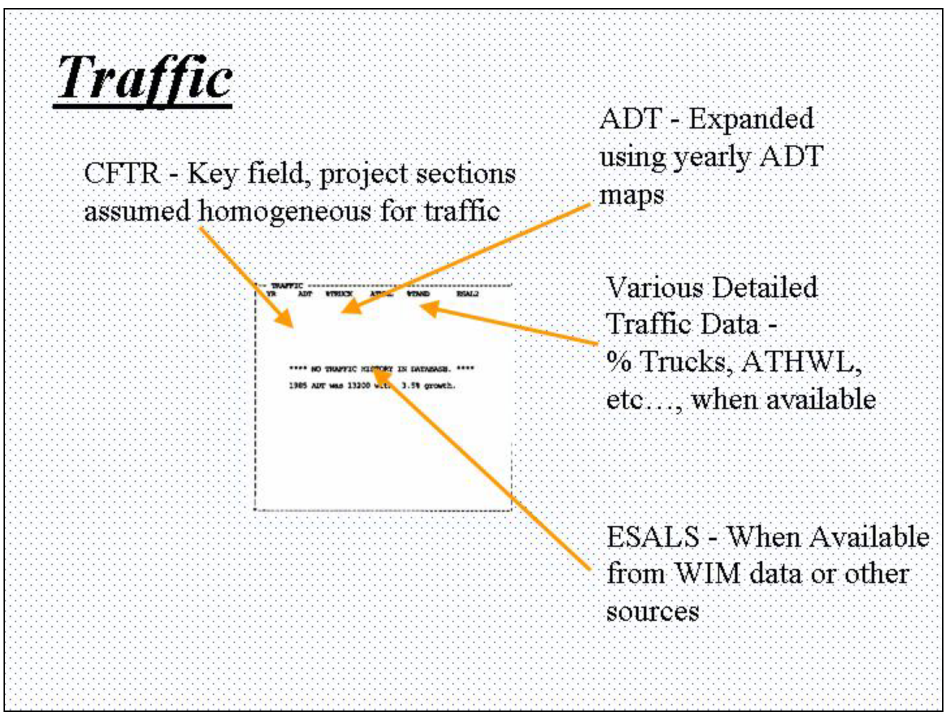



***Figure 3.7 Traffic Table in the RP Database***

The importance of the traffic data can't be overstated; it is one of the key indicators in the database for determining whether pavement performance has met the design life in terms of traffic exposure. Unfortunately, it is spotty at present, except for the ADT which is fairly reliable since it is collected by TxDOT using a large number of traffic counters across the state.

There is one additional table in the database which is not presently captured by the one page summary reports. The Photo Database is a collection of digital photographs which are linked by CFTR key to all the other tables. It is used for a variety of purposes including assisting in section relocation, documenting unusual or questionable distresses, and providing a very useful visual record for others to look at who did not see the actual pavements in the field. Fig 3.8 illustrates this concept as to how the photo database fits in the database organization.

Currently, the photo database holds hundreds of digital photos, and is growing rapidly with each survey season. Its organization will be discussed below.

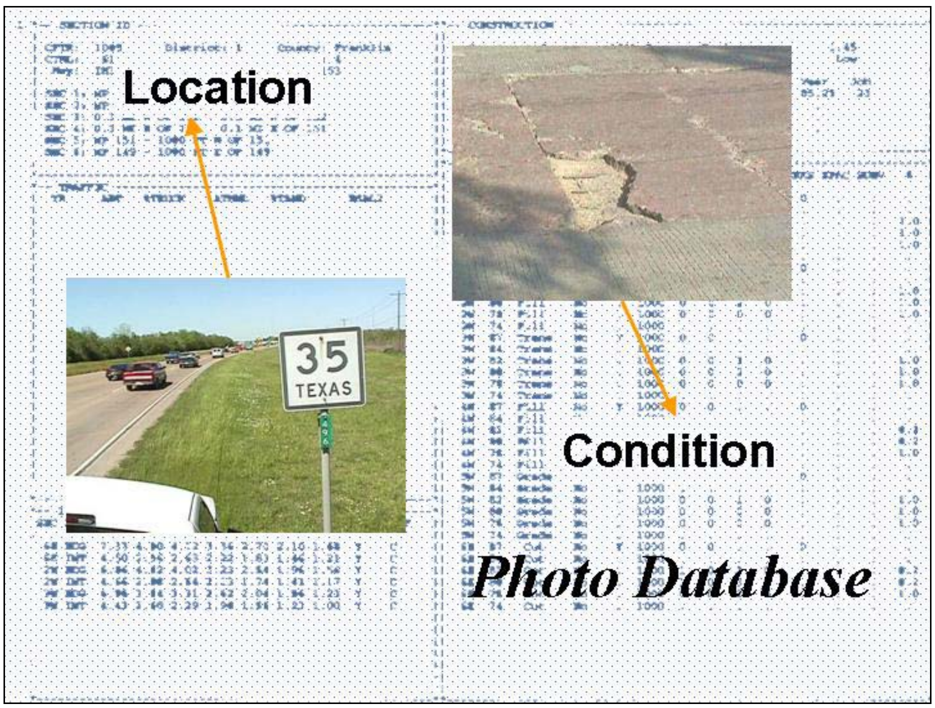



***Figure 3.8 Photo Database linkage to the RP Database***

***Current Implementation***

The current version of the database is implemented using the SAS language (SAS, 1990). It exists as a set of five two-dimensional (row, column) tables containing each of the groups described above. The only records not accessed by the SAS implementation are the images in the photo database. Although it is possible to include the photos in the SAS database, this has not been done since the main storage for all files will now be in MS Access, and there is no need to duplicate the work in SAS.

SAS is portable between all common computer platforms, including mainframe and personal computers. The implementation at CTR is installed on the CTR server, which is then accessed through a LAN (local area network) by client workstations that run SAS locally but access the data from the central server. This arrangement insures that only one copy of the database is maintained and is always current. A change made by any authorized user (such as an update) is immediately reflected in the data accessed by all users.

Access from outside the LAN is also possible, through an FTP Internet server which is installed on the CTR server. Using the fixed IP address assigned to the server, plus the appropriate login ID and password, the data may be accessed from anywhere in the world through a phone line or high speed data connection. Examples for doing this are given in Chapter 5.

***Advantages vs. Disadvantages of SAS***

In the introduction to this chapter, several advantages of using MS Access were given. To summarize, the primary advantage of using MS Access to store the data is that it is a widely available database engine with connectivity to a large number of application packages. It is available on nearly every office PC computer, being a standard part of the MS Office package (MS Word, Excel, PowerPoint, Visual Basic, etc..) that everyone is familiar with. Because it is such a common standard, most applications including those not published by Microsoft include at least some sort of import procedure for reading MS Access databases, which are files with the suffix .MDB for Microsoft database. SAS is one such application; it is able to import and export MDB files very easily.

Access has some serious limitations. It is designed primarily to capture and store data, and query the resulting database. It is capable of quickly producing simple reports with a minimum of effort by a novice user. However, creating a complex report to the exact specifications of an advanced user quickly becomes exponentially more complicated. In addition, charting in Access is similarly primitive, and complex statistical analysis is not possible at all. This is because Access was designed by Microsoft to fill a specific need, which is primarily to be a database management system. Excel, Word, and other, third party applications are intended to fulfill the other reporting and analysis requirements.

SAS, by contrast, is very strong on data filtering, charting, analysis, and especially on complex statistical analysis of the sort that is often required by pavement research. SAS is fairly strong, in the newest releases, in the database management area that Access is focused on. In fact, a strong case could be made that SAS is now a far better data management system than Access is. However, SAS is available only by yearly lease, which makes it out of reach for many users not in the academic world where it is heavily discounted and supported.

Happily, SAS and Access coexist readily. SAS can open an Access database and extract any data needed for an analysis, and it can also import, update, and replace the database after performing data reduction, summary, and analysis functions.

Therefore, the decision was made to implement the database in Access format where it can be used without SAS for simple queries and reports, but still imported and used for the complex analyses where SAS is much preferred.

## MS Access Design Approach

Given that the decision has been made to implement the database using MS Access, a design approach is required for the new database. Because the data has already been collected and organized into tables for the existing SAS database, much of the work in creating the MS Access database has already been done. In fact, the same tables can be used after exporting them to Access. The only file that needs to be added is CTR's large photo database which is not currently linked in any organized fashion to the SAS version of the database.

Fig 3.8 illustrates the goal of the new database. The idea is to maintain the functionality of the old database, incorporating all existing data into an Access structure. In the process, the photo database will be linked to the location and distress tables so that a user may view the data and any accompanying illustrations on the screen at the same time.

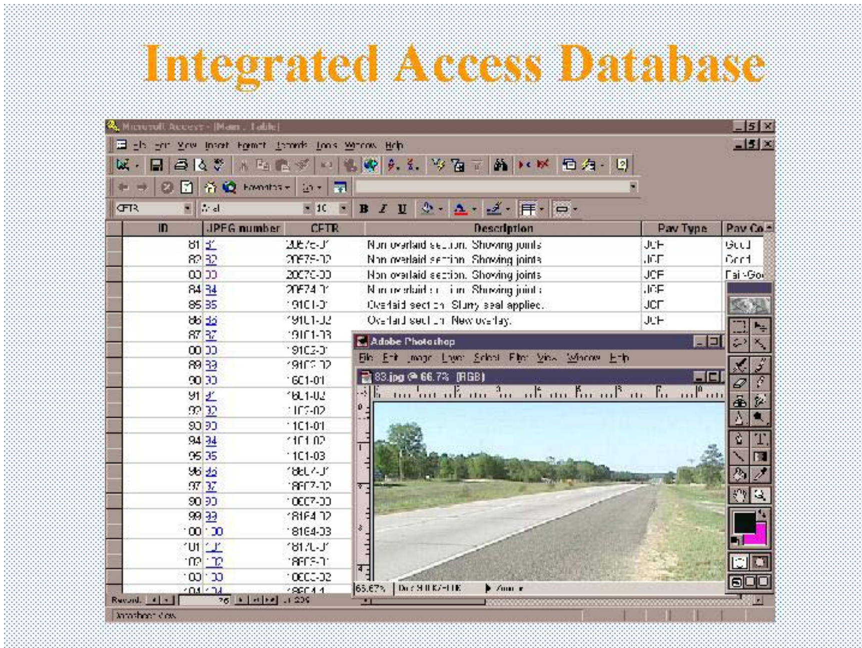



***Figure 3.9 Concept of an integrated Access database***

## MS Access Implementation

MS Access implementation was straightforward and successful. Most of the process was automated, exporting the existing SAS tables detailed above directly into Access (MDB) format. Using Access, tables were defined for each element, and appropriate field names with descriptions were assigned. The photo database was constructed from scratch by creating a form with links to and short descriptions of each photo. As always, the majority of the photos were assigned a CFTR master key to permanently link them to the survey section where they were taken. A few photos have no key and are in the photo database primarily as examples of distress types for the raters to study.

After the tables were created, the next step in developing the Access database was to create a set of forms so that new data can be added, and old data may be edited. Forms are essentially data entry sheets that can be easily used to review and modify data, if needed. The initial Access database was created with four forms: (1) Location, (2) Construction, (3) Climate, and (4) Survey. More will be added as needed.

The third step was to write some queries in Access language. Queries can be used for all sorts of data retrieval, for purposes ranging from listing all condition surveys performed this year, to looking for data which is likely to be incorrect. In fact, the first four queries written were to perform the latter function, which was to look for inconsistencies in the database. These queries are: (1) Find duplicate records in Master file, (2) find duplicate records in Survey file, (3) list project locations never surveyed, and (4) list only locations surveyed. These queries and their associated forms have already been used to remove duplicate or erroneous records from the database.

The final step was to create a few sample reports. Reports in Access are essentially a spreadsheet style layout that is automatically populated by every record returned matching a query. Thus, the report designer lays out a formatted page, including any static information like headers, background, column titles, etc… and then specifies what variables from the database should be in the report and where on the page they go. Access then runs the report and fills in the values for each variable down the page. Although every user will probably want to create his or her own reports, half a dozen pre-written reports are included with the database to create the reports included in the Appendices of this document.

Detailed examples of how to write and use forms, tables, queries, and reports will be given in Chapter 5.

## Storage and Access

The completed Access database is stored on the CTR server, which is the hub of a LAN that can be accessed directly from anywhere on the University of Texas campus, or from anywhere else via the Internet. It is approximately 40 MB in size at the time of this writing, including the photo database. It is backed up routinely to insure no loss of data occurs. A copy is available upon request on CD ROM, and is furnished to TxDOT at regular intervals.

Detailed instructions for accessing the database on CD ROM, through the LAN, or via the Internet are provided in Chapter 5.

## Summary

The SAS version of the RP Database has been converted to Access format where it is accessible to anyone with a wide variety of software applications. Because SAS is still the best application available for analyzing the data, cross compatibility has been maintained. Any application capable of importing or reading .MDB format may access the data, or Access may be used stand alone to query, edit, print, or report the data in a straightforward, simple way. Several simple reports have been written in Access so that even the most novice user can immediately view the data in various useful ways. If a report is desired that has not been provided, the user may start the built-in Report Wizard to quickly and easily design and create their own report. Examples of this will be given in a subsequent Chapter.

# 4. Description of the Data

## Introduction

This chapter presents a detailed description of the data fields in every table of the database. The descriptions below are identical to the descriptions which are stored within the database itself, except with more detail and explanation in some cases. The internal database documentation can be seen by opening any of the tables in Design View from within MS Access. A full understanding of some of the data would require a lengthy explanation that is outside the scope of this report. In those instances, a reference to an appropriate technical report is given.

## Definition and Description of Variables

There are four basic types of data in the RP Database, collected from two types of pavements: continuously reinforced concrete pavement (CRCP) and jointed concrete pavement (JCP). The four basic types are as follows:

- ***Inventory Data*** – Data that does not change significantly from year to year, such as project location, pavement thickness, 20-year average rainfall, etc.
- ***Survey Data*** – Data that does change each year, specifically pavement condition as measured by visual condition survey, deflection testing, etc.
- ***Derived Data*** – Data that is not observed directly during a condition survey, but rather is calculated from data that is. For example, load transfer may be estimated from deflection measurements. This data could be reconstructed each time it is needed, but for the convenience of the user the more useful data of this sort is maintained in the database for future use.
- ***Images*** – Photographs that are stored and properly linked are of great use in relocating the exact section in subsequent years, recording distress data, and in resolving any questionable distress measurements by letting other engineers see exactly what the rater saw at the time of the survey.

### *Inventory Data*

At present, the inventory data for CRCP and JCP survey sections are kept in separate files. At some future time, it may be desirable to combine the two files into one. To do so will require resolving some differences in the data definitions for fields contained in the files, so for the data descriptions remain separate. Table 4.1 shows the contents of the JCP master file.

*Table 4.1 JCP Master File*

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| DIR | Direction of travel |
| SEC | Survey section within project |
| DIS | District number |
| COUNTY | County name |
| HWY | Hwy designator |
| RM1 | Starting reference marker |
| DISP1 | Displacement from RM1 |
| RM2 | Ending reference marker |
| DISP2 | Displacement from RM2 |
| GPSLON | GPS longitude |
| GPSLAT | GPS latitude |
| LEN | Section length |
| LANES | Number of lanes |
| LANE# | PMIS lane designation |
| RBD | Cut, fill, transition, or grade |
| CURVE | Curve or straight |
| OVER | Overlaid or not |
| Z | Z score |
| CTRL | TxDOT control no |
| SECT | TxDOT section no |
| JOB | TxDOT job no |
| PVT | Plain or reinforced |
| CAT | Coarse aggregate type |
| DOW | Dowels? |
| PLGTH | Project length |
| CDATE | Construction date |
| D | Thickness |
| SLGTH | Section length |
| CLI | Climate designator zone |
| SOIL | Swelling soil (high, low moderate) |
| HOT | Avg. annual high temp |
| COLD | Avg. annual low temp |
| RAIN | Avg. annual rainfall |
| TOTESAL | Estimated cumulative ESAL to date |
| TEMP | Freeze or no freeze |
| MOIS | Wet or dry |
| AGE | Time since construction |
| WEAT STA | NOAA weather station number |

Table 4.2 describes the CRCP master file, which is quite similar to the JCP master file.

***Table 4.2 CRCP Master File.***

| Variable | Description |
|---|---|
| Photo | Link to jpg photo (when available) |
| COUNTY | County where section located |
| NJOB | TxDOT JOB numbers for subsequent const. |
| CFTR | Project number |
| CTRL | TxDOT Control number |
| SEC | TxDOT Section number |
| L | Project length (mi) |
| D | Pavement Thickness (in) |
| CAT | Coarse aggregate used - 1=SRG, 2=LS, 3=mix |
| SBT | Subbase treatment |
| SOIL | Swelling soil? Y or N |
| TEMP | Avg ann. temp - obsolete - |
| RAIN | Avg ann. rainfall (in) - obsolete - |
| CDATE | Construction date (approx) in year.xx format |
| OV1-OV4 (4 fields) | Date of nth overlay YY.yy |
| MP1 | Beginning mile POST |
| MP2 | Ending mile POST |
| ADT85 | 1985 ADT |
| G | ADT growth rate as of 1985 |
| LANE | Number of lanes |
| ST | Surface treatment - obsolete - |
| MAIN | Main lane? Y or N |
| CD | Coefficient of drainage - calculated - |
| HWY | Highway designation |
| JOB | TxDOT Job number for const. |
| RMS1-RMS6 (6 fields) | Begin Ref marker for each survey section |
| RME1-RME6 (6 fields) | End Ref marker for each survey section |
| LD1-LD6 (6 fields) | PMIS lane designator, nth survey section |
| LON1-LON6 (6 fields) | Longitude (W) of each survey section |
| LAT1-LAT6 (6 fields) | Latitude (N) of each survey section |
| ADT90-ADT94 (5 fields) | 1990-1994 Average annual daily traffic |
| AMAT | Average minimum annual temperature (F) |
| AAR | Average annual rainfall (in) |
| AME | Average mean evaporation rate during construction ($lb/ft^2/hr$) |
| LTAC | Low temperature within one year of const. |
| HTDC | High temperature during const. (+/- 1 month) (F) |

Besides the master files, there are also additional inventory files which describe in greater detail the climatic conditions experienced by the pavement during and after construction. The data for these files was obtained from a number of sources, primarily the NCDC / NOAA weather database on the Internet. The climate file for CRCP exists in both a long (Table 4.3) and short (Table 4.4) version, the contents of which are shown below. Table 4.5 gives the same data for the JCP survey sections.

***Table 4.3 CRCP Construction Climate (short version)***

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| AMAT | Average minimum annual temperature (F) |
| AAR | Average annual rainfall (in) |
| AME | Average daily evaporation rate *during construction month* ($lb/ft^2/hr$) |
| LTAC | Low temperature within one year after construction (F) |
| HTDC | High air temperature during construction (approx. due to imprecise const. date) (F) |

***Table 4.4 CRCP Weather (long version)***

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| COUNTY | County name (text) |
| CDATE | Estimated construction date (year) |
| MONTH | Estimated construction date (month) |
| WSTA_NCDC_SAMSON | TX weather station ID (CD ROM) |
| WSTA_NCDC_WEB | TX weather station ID (NCDC Internet) |
| AVEMIN_ANN_TEMP | Average min. temperature during month of construction (in) |
| AVE_ANN_RAIN | Average annual rainfall during month of construction (in) |
| AVE-MONTH-EVAP | Average evaporation during construction month ($lb/ft^2/hr$) (ACI nomograph) |
| LOW_TEMP_AFTER_CONST | Minimum temperature within first year following construction (F) |
| HIGH_TEMP_CONST | High air temp. during construction (F) |

*Table 4.5 JCP Construction Weather*

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| COUNTY | County name |
| CDATE | Construction date |
| MM-DD | Day & Month |
| FRACTION_YEAR | Fractional year |
| DAY_YEAR | Julian date (days since Jan 01) |
| WEA_STA_NCDC_SAMSON | SAMSON weather station ID |
| WEA_STA_NCDC_WEB | NCDC weather station ID |
| AVE_MIN_ANN_TEMP | Average minimum annual temp |
| AVE_ANN_RAIN | Average annual rainfall |
| AVE_MONTH_EVAP | Average evaporation for const. month |
| LOW_TEMP_AFTER_CONST | Low temperature within one month after construction |
| HIGH_TEMP_CONST | High temperature during construction (approx.) |

A few comments are in order regarding the climatic data files. Initially, only the average annual rainfall and average minimum temperatures were recorded for each survey project, and this data is recorded in the master file for each pavement type. However, subsequent research has concluded that more precise environmental data, especially during construction, may help explain differences in performance observed in various pavements that would otherwise be expected to give the same service. Accordingly, an intense effort was made to collect this sort of data using the National Climatic Data Center's resources both on CD ROM and on the Internet. Computer programs were written to sort through the vast amount of data available and calculate useful variables for analysis.

Most of the climatic variables in Tables 4.3 – 4.5 are self-explanatory, such as average annual rainfall and average annual minimum temperature. Average monthly evaporation during construction was estimated from the (approximate) construction date using the ACI nomograph procedure. This value is especially important as studies have shown that distresses such as spalling are more likely to occur when paving is done during high evaporation periods. The high temperature during construction may help explain close cracking, especially when using siliceous aggregates.

*Survey Data*

The following files describe data taken during the various condition surveys from 1974 to the present. The surveys include both visual condition survey and also deflection measurements using the Falling Weight Deflectometer (FWD). To properly use the FWD data, it is necessary to understand the method by which it was collected and that it was all acquired during the 1987-1988 survey cycle. Fig 4.1 shows the method employed for non-overlaid sections.

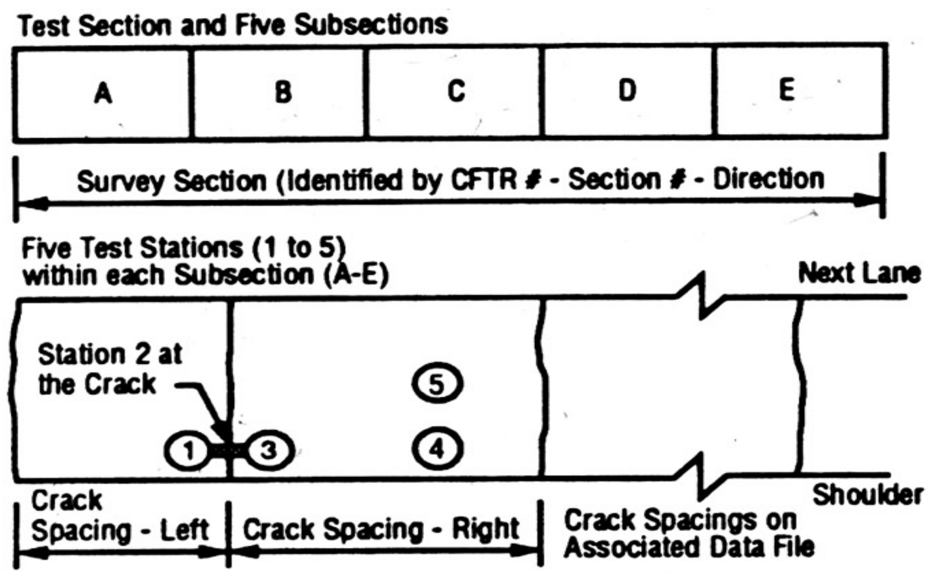



***Figure 4.1 Non-overlaid test section: subsections and stations.***

Referring to the figure, for the non-overlaid test sections each survey section was broken up into five subsections, labeled A-E. Within each subsection, five test stations were chosen based on the presence of a visible transverse crack. The FWD then was moved to each of these test stations, station 1 being in front of the crack, and station 2 being precisely on the crack, station three being behind the crack. These three stations were chosen to assess the load transfer across the crack. In a similar manner, drops were made at stations 4 and 5, which were situated mid span between cracks, station 4 being at the edge and station 5 being at the interior. These two stations were chosen to assess the edge and interior support condition for the slab away from the cracks.

Figure 4.2 shows the procedure used for FWD testing of asphalt overlaid CRCP. In most cases it was not possible to see the cracks in the underlying CRCP, so stations were chosen at even 100 ft spacings, starting 50 ft away from the endpoints. These were labeled L – U to avoid possible confusion with the non-overlaid section designations of A – E. Again, drops were made to determine edge and interior support. Table 4.3 shows how the raw data is stored.

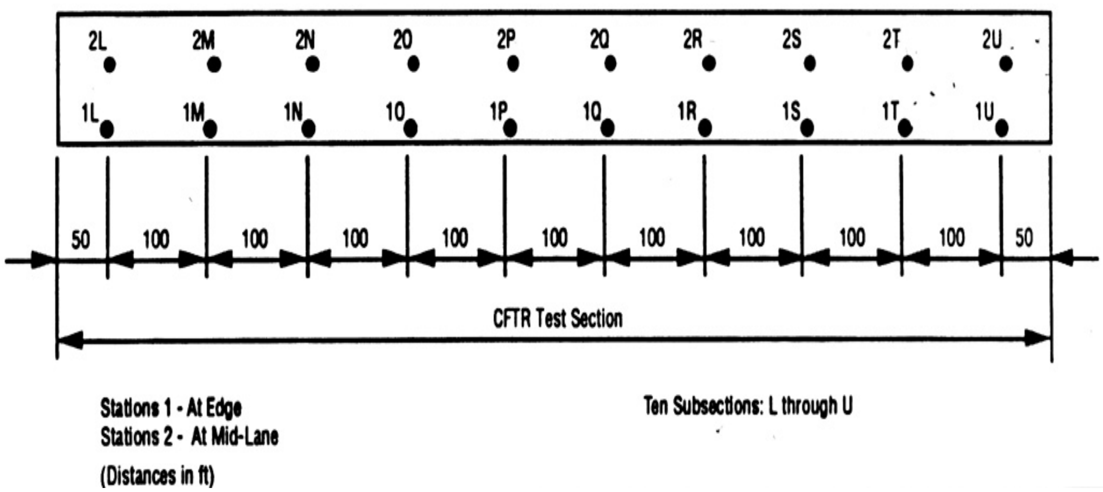



***Figure 4.2 Overlaid test section: subsections and stations.***

***Table 4.6 FWD Data (raw)***

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| DIR | Direction of travel |
| SECT | Survey section within project |
| SS | Sub-section for FWD test (see Report 472-6) |
| STATION | Station (edge or interior, see Report 472-6) |
| Configuration | FWD geophone configuration (see Report 472-6) |
| OVR | Overlaid or not (as recorded by crew) |
| Drop Height | FWD drop height |
| LBS | Calculated drop force |
| DF1 | W1 deflection (mil) |
| DF2 | W2 deflection (mil) |
| DF3 | W3 deflection (mil) |
| DF4 | W4 deflection (mil) |
| DF5 | W5 deflection (mil) |
| DF6 | W6 deflection (mil) |
| DF7 | W7 deflection (mil) |
| Surface temp | Surface temperature as measured with infrared device, when available. |
| TDEV | Temperature device type (if not IR) |

The bulk of the survey data stored in the RP Database is visual condition survey. This is the data that is collected by the raters every 2-4 years when they visit the test sections. Most of the variables collected refer to rigid pavement distress, but the variables added to the end of the table pertain to various types of asphalt distress in the overlaid sections. These were added after TxDOT identified a need for additional flexible overlay performance data. Table 4.7 shows how the CRCP condition survey data is stored. Tables 4.8 and 4.9 show the similar manner in which the JCP data is maintained. It is possible that at some future date all these files could be combined, adding a designator field for pavement type.

***Table 4.7 Survey (CRCP Condition Survey).***

| Variable | Description |
|---|---|
| YR | Year section surveyed |
| CFTR | Project ID number |
| SECT | Section within project (up to 6) |
| DIR | Direction of Travel |
| DATE | Date Surveyed |
| LANES | Number of Lanes |
| RATER | Rater Code (not used) |
| CFP | Cut, Fill, Grade, or Transition |
| CURVE | Curve or Straight |
| OVR | Overlaid? Y or N |
| LEN | Project Length (miles) |
| FROM | Starting Ref Marker or Milepost |
| TO | Ending Ref Marker or Milepost |
| ACP | Number of Asphalt Patches |
| PCCP | Number of Cement Patches |
| NCRK | Total Cracks in 1000' Section |
| BF | - obsolete - |
| NF | - obsolete - |
| MPO | Number of minor punchouts |
| SPO | Number of severe punchouts |
| AC | Percent wheelpath with Alligator Cracking |
| BC | Percent wheelpath with Block Cracking |
| RUT | Percent wheelpath with Rutting |
| LC | Number of Longitudinal Cracks |
| SPL | Spalled Cracks |

*Table 4.8 JCP 1994 (1994 JCP Condition Survey)*

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| Sect | Survey section within project |
| AC | Asphalt patches |
| PCCP | Portland cement patches |
| PUNCH | Punchouts |
| DCRACK | D cracks |
| CBRK | Corner Breaks |
| SLABS | Shattered slabs |
| CRACK | Number of cracks |
| DIR | Direction of travel |
| OVER | Overlaid? (according to rater) |

*Table 4.9 JCP 1999 (1999 JCP Condition Survey)*

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| DIR | Direction of travel |
| SECT | Survey section within project |
| OVER | Overlaid or non-overlaid |
| ALLIG | Alligator cracking (percent of driving lane) |
| BLOCK | Block cracking (percent of driving lane) |
| RSHAL | Shallow rutting (percent of driving lane) |
| RDEEP | Deep rutting(percent of driving lane) |
| AC0 | Asphalt patches (0 - 50 sq ft.) |
| AC51 | Asphalt patches (51 - 150 sq ft.) |
| AC150 | Asphalt patches (>150 sq ft.) |
| PCC0 | PCC patches (0 - 50 sq ft.) |
| PCC51 | PCC patches (51-150 sq ft.) |
| PCC150 | PCC patches (> 150 sq ft.) |
| MPUNCH | Minor punchouts |
| SPUNCH | Severe punchouts |
| DCRK | D-cracks |
| CBRKS | Corner breaks |
| SPALL | Number of spalls in section |
| FJOINT | Faulted joints |
| SLABS | Number of cracked slabs |
| TCRK | Total cracks in section |

In addition to the visual condition data which is taken every year that a survey is undertaken, various other data is collected from time to time. A comprehensive crack spacing survey was undertaken in 1987, the results of which are stored in the database as described in Table 4.10. This data differs from the ordinary crack spacing measurements taken as part of the condition survey in that every individual crack spacing measurement has been recorded. At the same time the crack spacings were recorded, the crack openings were also measured (Table 4.11).

***Table 4.10 CRACK87 (1987 Crack Spacings)***

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| SECT | Survey section within project |
| DIR | Direction of travel |
| CRACK | Individual crack spacing |

***Table 4.11 Crack Width***

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| DIR | Direction of travel |
| SECT | Survey section within project |
| SPACING | Spacing to neighboring crack (close, medium, or wide) |
| SPALL | Is this crack spalled? |
| SPL | Distance to adjacent crack (left) |
| SPR | Distance to adjacent crack (right) |
| WIDTH | Crack opening, mils |

The 1982 and 1984 condition surveys also recorded the presence and severity of spalled cracks, as well as ride data collected using the Mays Meter. This data does not correspond to the current survey sections, but does match up to the current project locations. It is a very large and still useful file, and therefore has been included in the RP Database. Table 4.12 shows the organization of the data. Once thought eliminated, early age failure due to spalling has once again become a problem, especially in Houston District. Therefore, spalling data is now being collected again after being discontinued previously in 1984.

***Table 4.12 Spalling Database.***

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| MSpall | Minor spalling (see Report 472-6) |
| SSpall | Severe spalling (see Report 472-6) |
| PSI | Pavement serviceability index 0-5 |
| YR | Year data collected |
| Info1 | Application notes (not data) |
| Info2 | Application notes (not data) |

The final file which changes yearly is the Traffic file. This file is not updated as a consequence of condition survey, but must be updated through a separate, labor-intensive process. The ADT data is updated from TxDOT traffic maps, but the loading (ESAL) data is updated through a difficult process that has not been undertaken in many years. Traffic loading is an extremely important variable in any attempt to model performance, and it is recommended that the ESAL data in this file be updated as soon as possible. In the meantime, extrapolations from models developed under Project 472 and reported in RR 472-6 can be used, if sufficient caution is observed. Table 4.13 shows the organization of the detailed traffic data file.

***Table 4.13 Traffic (detailed).***

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| YR | Year |
| N | Number of traffic sections averaged |
| ADT | Average daily traffic |
| PTRUCK | Percent trucks |
| ESAL2 | Equivalent single axle loads, both directions |
| ATHWL | Average ten heaviest wheel loads |
| PTAND | Percent tandem axles |
| _TYPE_ | Used only for internal purposes |
| _FREQ_ | Used only for internal purposes |

### *Derived Data*

As explained in the introduction to this chapter, some of the data maintained in the database was not directly collected but rather derived from data that was. The purpose of maintaining this sort of file is to assist the user in carrying out frequently performed analyses without the need for first recalculating the basic variables needed to perform the analysis. Most of these basic variables are difficult or impossible to calculate using MS Access, but can meaningfully applied in reports and graphs if they are available in reduced form. This section will focus on that data.

Table 4.14 describes the RP Database file containing normalized FWD data. In practice, the weights on the FWD are dropped from several different heights, resulting in different impulse loadings applied to the pavement. In order to compare the resulting deflections on different pavements in a meaningful way, the accepted practice is to normalize the deflections based on a standard load, usually 9000 lbs. The normalized FWD file, which is much smaller than the raw file, provides these summarized numbers while the more sophisticated user still has access to the complete data set.

***Table 4.14 FWD Data (normalized)***

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| DIR | Direction of travel |
| SECT | Survey section within project |
| SS | Sub-section for FWD test (see Report 472-6) |
| STATION | Station (edge or interior, see Report 472-6) |
| Configuration | FWD geophone configuration (see Report 472-6) |
| OVR | Overlaid or not (as recorded by crew) |
| DF1 | W1 deflection (normalized to 9000 lb) |
| DF2 | W2 deflection (normalized to 9000 lb) |
| DF3 | W3 deflection (normalized to 9000 lb) |
| DF4 | W4 deflection (normalized to 9000 lb) |
| DF5 | W5 deflection (normalized to 9000 lb) |
| DF6 | W6 deflection (normalized to 9000 lb) |
| DF7 | W7 deflection (normalized to 9000 lb) |

In a similar manner, commonly used estimates for load transfer and back-calculated modulus of elasticity have been pre-calculated and stored in MS Access tables, described in Table 4.15 and 4.16 below.

***Table 4.15 Load Transfer.***

| Variable | Description |
|---|---|
| CFTR | CFTR Project ID |
| DIR | Direction |
| SECT | Survey Section within Project |
| SS | Subsection |
| SCIC | Surface Curvature Index at crack |
| DF1C | W1 Deflection at crack |
| DF7C | W7 Deflection at crack |
| SCIU | Surface Curvature Index just upstream of crack |
| DF1U | W1 Deflection just upstream of crack |
| DF7U | W7 Deflection just upstream of crack |
| SCIM | Surface Curvature Index at midspan of slab |
| DF1M | W1 Deflection at midspan of slab |
| DF7M | W7 Deflection at midspan of slab |
| SCID | Surface Curvature Index just downstream of crack |
| DF1D | W1 Deflection just downstream of crack |
| DF7D | W7 Deflection Just downstream of crack |

***Table 4.16 Modulus.***

| Variable | Description |
|---|---|
| CFTR | CTR Project ID |
| DIR | Direction of travel |
| SECT | Survey section within project |
| OVR | Overlaid? (according to rater) |
| KWG | K value (Westergaard) (see Report 472-6 for all variables below) |
| KASH | K value (AASHTO) |
| EC | Modulus of concrete |
| ESB | Modulus of subbase |
| ESG | Modulus of subgrade |
| ERROR | Diff between measured and calculated |
| EOV | Modulus of overlay |

***Images***

The final category of information stored in the RP Database is images. MS Access provides the capability to hyperlink to separate image files, thereby linking digital photos to any other table in the database via the key fields of CFTR (CTR project identifier) and SEC (survey section). This capability has proven to be very useful in helping the rater determine that he or she has returned to precisely the same location on the pavement that was last visited years before, and also in supplementing the ability of the rater to identify unusual or subtle distresses by photographing them for second opinions from more experienced personnel upon return to the office.

This scheme for storing images is powerful because it keeps the images tightly associated with specific survey locations and times, while allowing the rater (or others) to add comments which will remain connected to the images for later use.

***Table 4.17 Photo Database.***

| Variable | Description |
|---|---|
| ID | Sequential photo ID |
| JPEG NUMBER | Hyperlink to photo |
| SEC | Survey section |
| CFTR | CTR Project ID |
| Description | Narrative / purpose of photo |
| Pav Type | CRC, Jointed, etc. |
| Pav Condition | Description of overall pavement condition |
| Distress highlighted | Explanation of distress shown in photo |

## Summary

This chapter has listed every table and field currently stored in the database, along with some necessary background needed to understand the data. In the next chapter, examples will be given of how to use these files through MS Access.

# 5. Using the Access Database

## Introduction

This chapter presents a number of examples demonstrating typical ways to access and use the MS Access version of the RP Database. It is intended to be an introduction but by no means a comprehensive list of applications that can be accomplished with this software. For additional information, the interested reader is referred to the reference (Simpson 1997). The reference contains more than 1,000 pages, covering everything from customizing a personal copy of the database to charting to creating very complex queries and macros.

In the sections that follow, some simple tasks using the database will be demonstrated.

## Local Access

This section assumes the user has access to a local copy of the RP Database. By local, it is meant a copy on the user's hard drive, or a distribution copy on CD ROM. Nearly all of the examples in this section will also work on a Local Area Network (LAN) or through Internet access, but special instructions for those remote access applications appear in a later section.

The following examples begin by opening the RP Database Access file located on the hard drive or CD ROM. If the CD ROM is opened directly, without copying it first to the local hard drive, no changes can be made to the database. The file is opened by double clicking on the icon next to the name, which is RPDbase.mdb. The initial screen is pictured in Fig 5.1 below.

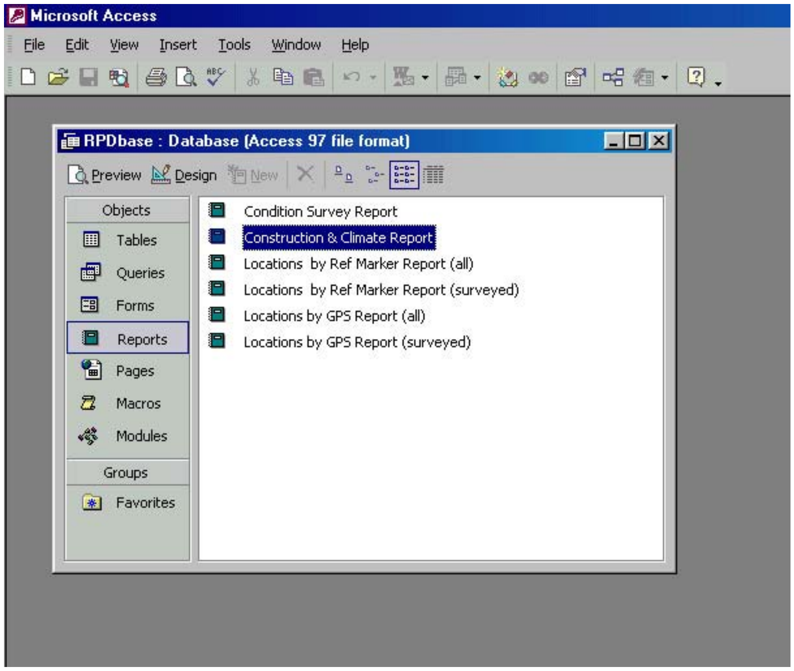



***Figure 5.1 Opening screen for MS Access RP Database***

***Displaying the Tables***

As explained in Chapter 3, the heart of any database is the tables containing the data. Each table is a two-dimensional chart containing observations in the rows and variables in the columns. For example, the Master table contains all the location information for each project, identified by CFTR (master key) number. It also contains some additional information that is constant for the entire length of the project and does not change from year to year. Each row is one project and each column is one piece of data, as identified at the top.

MS Access allows direct viewing of the tables that contain the data. In order to display the Master table in this example, it is necessary to click on TABLES to the left of the Access screen. That will bring up a list of tables in the database as shown in Fig 5.2.

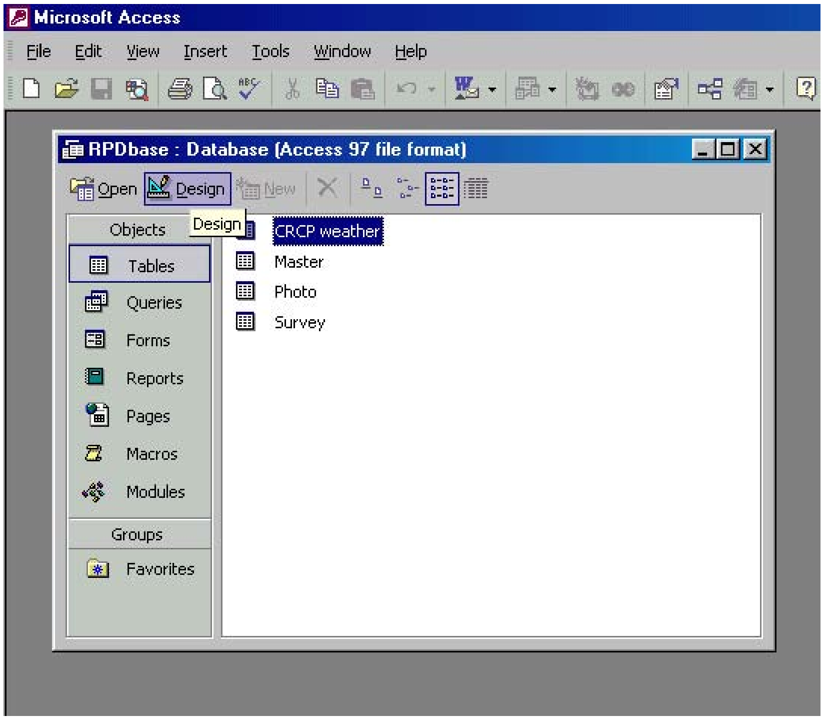
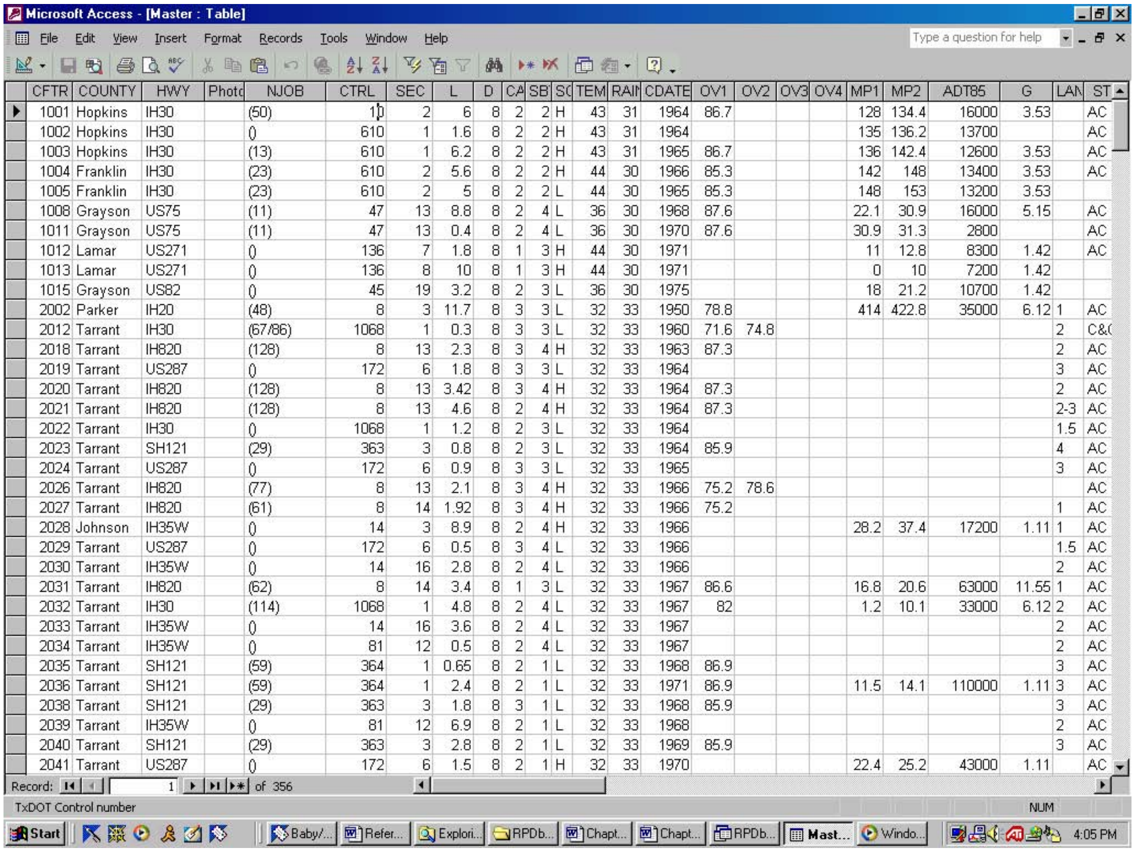



***Figure 5.2 Tables in the RP Database***

Any of the tables shown in Fig 5.2 may now be viewed by double clicking on them. As can be seen from the figure, there are presently four tables in the RP Database: the Master table as described previously, the CRCP/Weather table which contains all construction and climate variables that may influence pavement performance, the Photo Data which provides a visual record of distresses and aids in relocating the section, and the largest of the four, the Survey Data, which contains all of the survey information from 1974 to the present.

For this example, clicking on the Master data table will open the Master data for view, as shown in Fig 5.3. The figure shows a partial view of the many variables in the file, as it is too wide to display on a single screen. There is one row or record for each of the 356 projects in the RP Database. As explained in Chapter 2, a project may contain up to six survey sections, but sometimes contains none if it was not selected for the factorial experiment.



Microsoft Access - [Master : Table]

| CFTR | COUNTY | HWY | Photo | NJOB | CTRL | SEC | L | D | CA | SB | SC | TEM | RAIN | CDATE | OV1 | OV2 | OV3 | OV4 | MP1 | MP2 | ADT85 | G | LAN | ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1001 | Hopkins | IH30 | | (50) | 10 | 2 | 6 | 8 | 2 | 2 | H | 43 | 31 | 1964 | 86.7 | | | | 128 | 134.4 | 16000 | 3.53 | | AC |
| 1002 | Hopkins | IH30 | | () | 610 | 1 | 1.6 | 8 | 2 | 2 | H | 43 | 31 | 1964 | | | | | 135 | 136.2 | 13700 | | | AC |
| 1003 | Hopkins | IH30 | | (13) | 610 | 1 | 6.2 | 8 | 2 | 2 | H | 43 | 31 | 1965 | 86.7 | | | | 136 | 142.4 | 12600 | 3.53 | | AC |
| 1004 | Franklin | IH30 | | (23) | 610 | 2 | 5.6 | 8 | 2 | 2 | H | 44 | 30 | 1966 | 85.3 | | | | 142 | 148 | 13400 | 3.53 | | AC |
| 1005 | Franklin | IH30 | | (23) | 610 | 2 | 5 | 8 | 2 | 2 | L | 44 | 30 | 1965 | 85.3 | | | | 148 | 153 | 13200 | 3.53 | | |
| 1008 | Grayson | US75 | | (11) | 47 | 13 | 8.8 | 8 | 2 | 4 | L | 36 | 30 | 1968 | 87.6 | | | | 22.1 | 30.9 | 16000 | 5.15 | | AC |
| 1011 | Grayson | US75 | | (11) | 47 | 13 | 0.4 | 8 | 2 | 4 | L | 36 | 30 | 1970 | 87.6 | | | | 30.9 | 31.3 | 2800 | | | AC |
| 1012 | Lamar | US271 | | () | 136 | 7 | 1.8 | 8 | 1 | 3 | H | 44 | 30 | 1971 | | | | | 11 | 12.8 | 8300 | 1.42 | | AC |
| 1013 | Lamar | US271 | | () | 136 | 8 | 10 | 8 | 1 | 3 | H | 44 | 30 | 1971 | | | | | 0 | 10 | 7200 | 1.42 | | |
| 1015 | Grayson | US82 | | () | 45 | 19 | 3.2 | 8 | 2 | 3 | L | 36 | 30 | 1975 | | | | | 18 | 21.2 | 10700 | 1.42 | | |
| 2002 | Parker | IH20 | | (48) | 8 | 3 | 11.7 | 8 | 3 | 3 | L | 32 | 33 | 1950 | 78.8 | | | | 414 | 422.8 | 35000 | 6.12 | 1 | AC |
| 2012 | Tarrant | IH30 | | (67/86) | 1068 | 1 | 0.3 | 8 | 3 | 3 | L | 32 | 33 | 1960 | 71.6 | 74.8 | | | | | | | 2 | C&C |
| 2018 | Tarrant | IH820 | | (128) | 8 | 13 | 2.3 | 8 | 3 | 4 | H | 32 | 33 | 1963 | 87.3 | | | | | | | | 2 | AC |
| 2019 | Tarrant | US287 | | () | 172 | 6 | 1.8 | 8 | 3 | 3 | L | 32 | 33 | 1964 | | | | | | | | | 3 | AC |
| 2020 | Tarrant | IH820 | | (128) | 8 | 13 | 3.42 | 8 | 3 | 4 | H | 32 | 33 | 1964 | 87.3 | | | | | | | | 2 | AC |
| 2021 | Tarrant | IH820 | | (128) | 8 | 13 | 4.6 | 8 | 2 | 4 | H | 32 | 33 | 1964 | 87.3 | | | | | | | | 2-3 | AC |
| 2022 | Tarrant | IH30 | | () | 1068 | 1 | 1.2 | 8 | 2 | 3 | L | 32 | 33 | 1964 | | | | | | | | | 1.5 | AC |
| 2023 | Tarrant | SH121 | | (29) | 363 | 3 | 0.8 | 8 | 2 | 3 | L | 32 | 33 | 1964 | 85.9 | | | | | | | | 4 | AC |
| 2024 | Tarrant | US287 | | () | 172 | 6 | 0.9 | 8 | 3 | 3 | L | 32 | 33 | 1965 | | | | | | | | | 3 | AC |
| 2026 | Tarrant | IH820 | | (77) | 8 | 13 | 2.1 | 8 | 3 | 4 | H | 32 | 33 | 1966 | 75.2 | 78.6 | | | | | | | | AC |
| 2027 | Tarrant | IH820 | | (61) | 8 | 14 | 1.92 | 8 | 3 | 4 | H | 32 | 33 | 1966 | 75.2 | | | | | | | | 1 | AC |
| 2028 | Johnson | IH35W | | () | 14 | 3 | 8.9 | 8 | 2 | 4 | H | 32 | 33 | 1966 | | | | | 28.2 | 37.4 | 17200 | 1.11 | 1 | AC |
| 2029 | Tarrant | US287 | | () | 172 | 6 | 0.5 | 8 | 3 | 4 | L | 32 | 33 | 1966 | | | | | | | | | 1.5 | AC |
| 2030 | Tarrant | IH35W | | () | 14 | 16 | 2.8 | 8 | 2 | 4 | L | 32 | 33 | 1966 | | | | | | | | | 2 | AC |
| 2031 | Tarrant | IH820 | | (62) | 8 | 14 | 3.4 | 8 | 1 | 3 | L | 32 | 33 | 1967 | 86.6 | | | | 16.8 | 20.6 | 63000 | 11.55 | 1 | AC |
| 2032 | Tarrant | IH30 | | (114) | 1068 | 1 | 4.8 | 8 | 2 | 4 | L | 32 | 33 | 1967 | 82 | | | | 1.2 | 10.1 | 33000 | 6.12 | 2 | AC |
| 2033 | Tarrant | IH35W | | () | 14 | 16 | 3.6 | 8 | 2 | 4 | L | 32 | 33 | 1967 | | | | | | | | | 2 | AC |
| 2034 | Tarrant | IH35W | | () | 81 | 12 | 0.5 | 8 | 2 | 4 | L | 32 | 33 | 1967 | | | | | | | | | 2 | AC |
| 2035 | Tarrant | SH121 | | (59) | 364 | 1 | 0.65 | 8 | 2 | 1 | L | 32 | 33 | 1968 | 86.9 | | | | | | | | 3 | AC |
| 2036 | Tarrant | SH121 | | (59) | 364 | 1 | 2.4 | 8 | 2 | 1 | L | 32 | 33 | 1971 | 86.9 | | | | 11.5 | 14.1 | 110000 | 1.11 | 3 | AC |
| 2038 | Tarrant | SH121 | | (29) | 363 | 3 | 1.8 | 8 | 3 | 1 | L | 32 | 33 | 1968 | 85.9 | | | | | | | | 3 | AC |
| 2039 | Tarrant | IH35W | | () | 81 | 12 | 6.9 | 8 | 2 | 1 | L | 32 | 33 | 1968 | | | | | | | | | 2 | AC |
| 2040 | Tarrant | SH121 | | (29) | 363 | 3 | 2.8 | 8 | 2 | 1 | L | 32 | 33 | 1969 | 85.9 | | | | | | | | 3 | AC |
| 2041 | Tarrant | US287 | | () | 172 | 6 | 1.5 | 8 | 2 | 1 | H | 32 | 33 | 1970 | | | | | 22.4 | 25.2 | 43000 | 1.11 | | AC |

Record: 1 of 356

TxDOT Control number

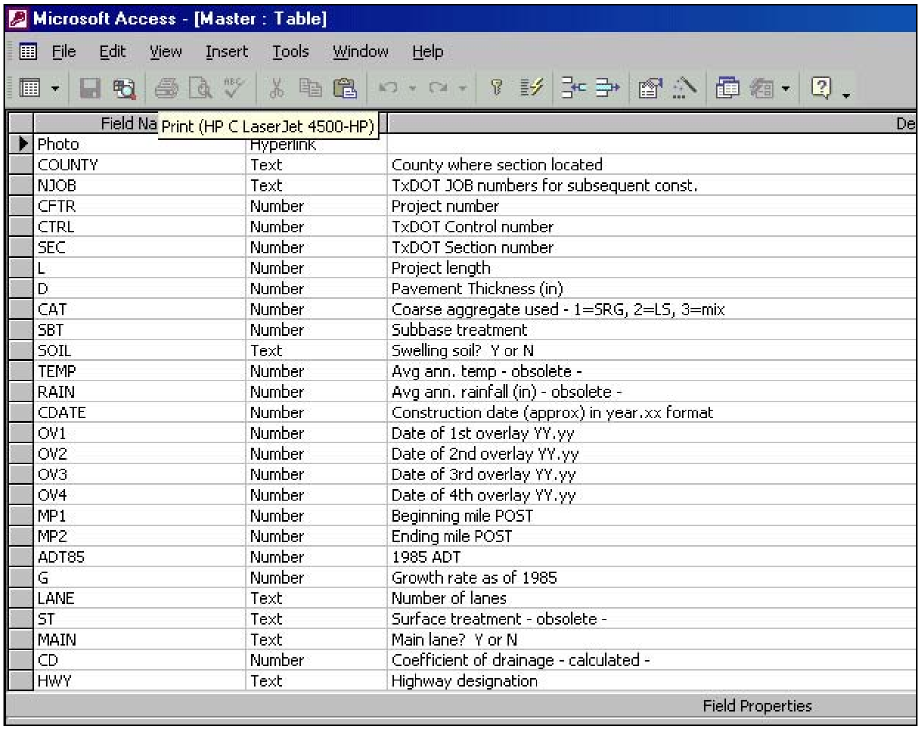
***Figure 5.3 Contents of the Master Table in the Access Database***

Near the top of the screen in Fig 5.2, there is a DESIGN icon which represents a pencil, ruler and 45 degree triangle. The purpose of the DESIGN icon is to open the design view of the file that is selected. Primarily, this is for the use of the designer in creating the table, but it is also useful for providing an additional view of the data, which, in this case contains additional comments on the meaning of each data item. Fig 5.4 shows the DESIGN view including some important comments on each field in the file.

Although the Master Table was chosen for this example, any of the other tables can be displayed in the same manner, simply by choosing the appropriate file from the list shown in Fig 5.2. They may also be opened in DESIGN view to list any comments, or to change the layout of the table.

### *Editing Existing Data*

Editing the data in the database is very straightforward. Entering, changing, deleting, or adding data to a table in Access is best accomplished using a form which is an MS Access construct for data entry. From the same window used in the last example (Fig 5.2) the forms option on the left is selected (instead of tables). This will show a list of four preconfigured data entry forms provided with the database. For this example, the LOCATION form will be used.




| Field Na | | De |
|---|---|---|
| Photo | Hyperlink | |
| COUNTY | Text | County where section located |
| NJOB | Text | TxDOT JOB numbers for subsequent const. |
| CFTR | Number | Project number |
| CTRL | Number | TxDOT Control number |
| SEC | Number | TxDOT Section number |
| L | Number | Project length |
| D | Number | Pavement Thickness (in) |
| CAT | Number | Coarse aggregate used - 1=SRG, 2=LS, 3=mix |
| SBT | Number | Subbase treatment |
| SOIL | Text | Swelling soil? Y or N |
| TEMP | Number | Avg ann. temp - obsolete - |
| RAIN | Number | Avg ann. rainfall (in) - obsolete - |
| CDATE | Number | Construction date (approx) in year.xx format |
| OV1 | Number | Date of 1st overlay YY.yy |
| OV2 | Number | Date of 2nd overlay YY.yy |
| OV3 | Number | Date of 3rd overlay YY.yy |
| OV4 | Number | Date of 4th overlay YY.yy |
| MP1 | Number | Beginning mile POST |
| MP2 | Number | Ending mile POST |
| ADT85 | Number | 1985 ADT |
| G | Number | Growth rate as of 1985 |
| LANE | Text | Number of lanes |
| ST | Text | Surface treatment - obsolete - |
| MAIN | Text | Main lane? Y or N |
| CD | Number | Coefficient of drainage - calculated - |
| HWY | Text | Highway designation |

***Figure 5.4 Design view of the Access Master file***

Double clicking on the LOCATION form will open the window shown in Fig 5.5. Changes to any of the data items may then be made directly into the data boxes, simply by typing over the value that needs to be changed. Navigation between rows of data is accomplished using the RECORD counter at the bottom left of the screen. Use Save under the file menu when done.

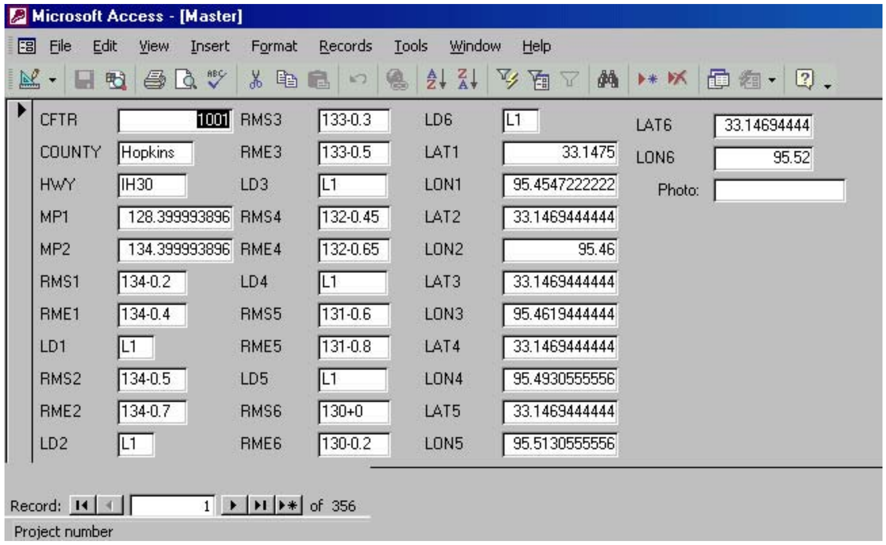



***Figure 5.5 Data entry form for Location data***

### *Adding Additional Data*

Adding additional data is also accomplished using forms. Following the steps in the example above for editing data, the RECORD control at the bottom left of Fig 5.5 can be advanced to the end of the file using the rightmost button, until, in this case, the record number displays as 357. There is no record 357 in the existing file, so all the fields will be blank. Typing in values to these fields, then saving the file will update the database with new data.

### *Querying the Database*

"Queries allow you to answer questions about your data, to extract specific information from tables, and to change selected data in various ways… the ability to perform queries is a key reason for using database management programs – rather than spreadsheets or word processing programs – to manage large amounts of related data." (Simpson 1997)

Queries fall into the following five groups:

- A *select query* retrieves data from one or more tables and displays the results in a datasheet where the records may be updated, or used to form sums, counts, averages, and other types of totals.
- A *parameter query* displays its own dialog box prompting the user one or more pieces of information; for example, it can be designed to prompt for two dates and then retrieve all records that fall between those two dates.

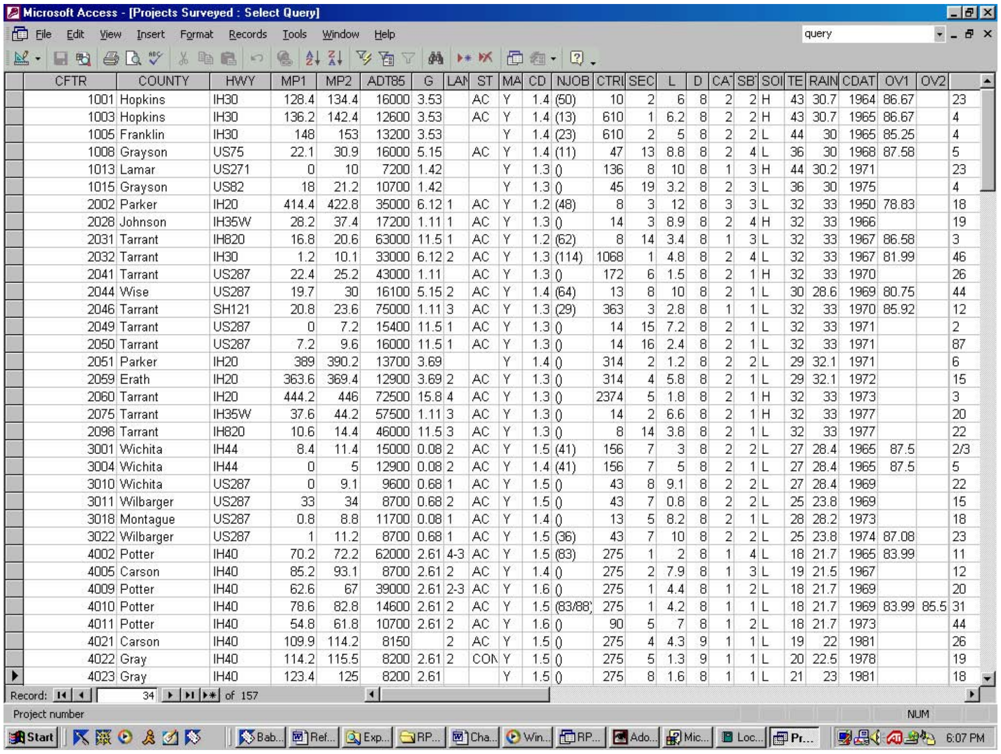
- A *crosstab query* calculates a sum, average, count, or other type of total for data that is grouped by two types of information — one down the left side of the datasheet and another across the top.
- An *action query* changes or moves many records in just one operation. There are four types of action queries:
    - Delete Queries A delete query deletes a group of records from one or more tables.
    - Update Queries An update query makes global changes to a group of records in one or more tables.
    - Append Queries An append query adds a group of records from one or more tables to the end of one or more tables.
    - Make-Table Queries A make-table query creates a new table from all or part of the data in one or more tables.
    - An SQL query uses Structured Query Language (SQL) to query, update, and manage relational databases such as Access.

As can be seen from the above, queries can be quite complex. For that reason, four pre-written queries have been included with the database, and more will be written as time permits so that the average user will be able to at least run parameter queries without the need to study MS Access to do so. However, the full power of MS Access is available for use on the RP Database to the user who is willing to study the manual and learn the appropriate techniques.

To run one of the pre-written queries, any other screens that may be open should be closed, in order to return to the main screen shown in Fig 5.2 "Queries" may then be selected from the choices given on the left. As with the other options, a pre-written query may be executed by double clicking on it, or the query may be examined and/or changed in design view.

For this example, one of the supplied queries will be run, the "Projects Surveyed" query in the list. Recalling from the previous chapters that not all of the projects surveyed prior to the change in 1987 were included in the new survey factorial, this query selects only the RP Database projects that have been surveyed in 1987 or later. It accomplishes this by linking the CFTR key between the MASTER table and the SURVEY table, and requiring that both records be present in order for the file to be selected.

Running the query produces the results shown in Fig 5.6.




| CFTR | COUNTY | HWY | MP1 | MP2 | ADT85 | G | LAN | ST | MA | CD | NJOB | CTRI | SEC | L | D | CA | SB | SOI | TE | RAIN | CDAT | OV1 | OV2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1001 | Hopkins | IH30 | 128.4 | 134.4 | 16000 | 3.53 | | AC | Y | 1.4 | (50) | 10 | 2 | 6 | 8 | 2 | 2 | H | 43 | 30.7 | 1964 | 86.67 | | 23 |
| 1003 | Hopkins | IH30 | 136.2 | 142.4 | 12600 | 3.53 | | AC | Y | 1.4 | (13) | 610 | 1 | 6.2 | 8 | 2 | 2 | H | 43 | 30.7 | 1965 | 86.67 | | 4 |
| 1005 | Franklin | IH30 | 148 | 153 | 13200 | 3.53 | | | Y | 1.4 | (23) | 610 | 2 | 5 | 8 | 2 | 2 | L | 44 | 30 | 1965 | 85.25 | | 4 |
| 1008 | Grayson | US75 | 22.1 | 30.9 | 16000 | 5.15 | | AC | Y | 1.4 | (11) | 47 | 13 | 8.8 | 8 | 2 | 4 | L | 36 | 30 | 1968 | 87.58 | | 5 |
| 1013 | Lamar | US271 | 0 | 10 | 7200 | 1.42 | | | Y | 1.3 | () | 136 | 8 | 10 | 8 | 1 | 3 | H | 44 | 30.2 | 1971 | | | 23 |
| 1015 | Grayson | US82 | 18 | 21.2 | 10700 | 1.42 | | | Y | 1.3 | () | 45 | 19 | 3.2 | 8 | 2 | 3 | L | 36 | 30 | 1975 | | | 4 |
| 2002 | Parker | IH20 | 414.4 | 422.8 | 35000 | 6.12 | 1 | AC | Y | 1.2 | (48) | 8 | 3 | 12 | 8 | 3 | 3 | L | 32 | 33 | 1950 | 78.83 | | 18 |
| 2028 | Johnson | IH35W | 28.2 | 37.4 | 17200 | 1.11 | 1 | AC | Y | 1.3 | () | 14 | 3 | 8.9 | 8 | 2 | 4 | H | 32 | 33 | 1966 | | | 19 |
| 2031 | Tarrant | IH820 | 16.8 | 20.6 | 63000 | 11.5 | 1 | AC | Y | 1.2 | (62) | 8 | 14 | 3.4 | 8 | 1 | 3 | L | 32 | 33 | 1967 | 86.58 | | 3 |
| 2032 | Tarrant | IH30 | 1.2 | 10.1 | 33000 | 6.12 | 2 | AC | Y | 1.3 | (114) | 1068 | 1 | 4.8 | 8 | 2 | 4 | L | 32 | 33 | 1967 | 81.99 | | 46 |
| 2041 | Tarrant | US287 | 22.4 | 25.2 | 43000 | 1.11 | | AC | Y | 1.3 | () | 172 | 6 | 1.5 | 8 | 2 | 1 | H | 32 | 33 | 1970 | | | 26 |
| 2044 | Wise | US287 | 19.7 | 30 | 16100 | 5.15 | 2 | AC | Y | 1.4 | (64) | 13 | 8 | 10 | 8 | 2 | 1 | L | 30 | 28.6 | 1969 | 80.75 | | 44 |
| 2046 | Tarrant | SH121 | 20.8 | 23.6 | 75000 | 1.11 | 3 | AC | Y | 1.3 | (29) | 363 | 3 | 2.8 | 8 | 1 | 1 | L | 32 | 33 | 1970 | 85.92 | | 12 |
| 2049 | Tarrant | US287 | 0 | 7.2 | 15400 | 11.5 | 1 | AC | Y | 1.3 | () | 14 | 15 | 7.2 | 8 | 2 | 1 | L | 32 | 33 | 1971 | | | 2 |
| 2050 | Tarrant | US287 | 7.2 | 9.6 | 16000 | 11.5 | 1 | AC | Y | 1.3 | () | 14 | 16 | 2.4 | 8 | 2 | 1 | L | 32 | 33 | 1971 | | | 87 |
| 2051 | Parker | IH20 | 389 | 390.2 | 13700 | 3.69 | | | Y | 1.4 | () | 314 | 2 | 1.2 | 8 | 2 | 2 | L | 29 | 32.1 | 1971 | | | 6 |
| 2059 | Erath | IH20 | 363.6 | 369.4 | 12900 | 3.69 | 2 | AC | Y | 1.3 | () | 314 | 4 | 5.8 | 8 | 2 | 1 | L | 29 | 32.1 | 1972 | | | 15 |
| 2060 | Tarrant | IH20 | 444.2 | 446 | 72500 | 15.8 | 4 | AC | Y | 1.3 | () | 2374 | 5 | 1.8 | 8 | 2 | 1 | H | 32 | 33 | 1973 | | | 3 |
| 2075 | Tarrant | IH35W | 37.6 | 44.2 | 57500 | 1.11 | 3 | AC | Y | 1.3 | () | 14 | 2 | 6.6 | 8 | 2 | 1 | H | 32 | 33 | 1977 | | | 20 |
| 2098 | Tarrant | IH820 | 10.6 | 14.4 | 46000 | 11.5 | 3 | AC | Y | 1.3 | () | 8 | 14 | 3.8 | 8 | 2 | 1 | L | 32 | 33 | 1977 | | | 22 |
| 3001 | Wichita | IH44 | 8.4 | 11.4 | 15000 | 0.08 | 2 | AC | Y | 1.5 | (41) | 156 | 7 | 3 | 8 | 2 | 2 | L | 27 | 28.4 | 1965 | 87.5 | | 2/3 |
| 3004 | Wichita | IH44 | 0 | 5 | 12900 | 0.08 | 2 | AC | Y | 1.4 | (41) | 156 | 7 | 5 | 8 | 2 | 1 | L | 27 | 28.4 | 1965 | 87.5 | | 5 |
| 3010 | Wichita | US287 | 0 | 9.1 | 9600 | 0.68 | 1 | AC | Y | 1.5 | () | 43 | 8 | 9.1 | 8 | 2 | 2 | L | 27 | 28.4 | 1969 | | | 22 |
| 3011 | Wilbarger | US287 | 33 | 34 | 8700 | 0.68 | 2 | AC | Y | 1.5 | () | 43 | 7 | 0.8 | 8 | 2 | 2 | L | 25 | 23.8 | 1969 | | | 15 |
| 3018 | Montague | US287 | 0.8 | 8.8 | 11700 | 0.08 | 1 | AC | Y | 1.4 | () | 13 | 5 | 8.2 | 8 | 2 | 1 | L | 28 | 28.2 | 1973 | | | 18 |
| 3022 | Wilbarger | US287 | 1 | 11.2 | 8700 | 0.68 | 1 | AC | Y | 1.5 | (36) | 43 | 7 | 10 | 8 | 2 | 2 | L | 25 | 23.8 | 1974 | 87.08 | | 23 |
| 4002 | Potter | IH40 | 70.2 | 72.2 | 62000 | 2.61 | 4-3 | AC | Y | 1.5 | (83) | 275 | 1 | 2 | 8 | 1 | 4 | L | 18 | 21.7 | 1965 | 83.99 | | 11 |
| 4005 | Carson | IH40 | 85.2 | 93.1 | 8700 | 2.61 | 2 | AC | Y | 1.4 | () | 275 | 2 | 7.9 | 8 | 1 | 3 | L | 19 | 21.5 | 1967 | | | 12 |
| 4009 | Potter | IH40 | 62.6 | 67 | 39000 | 2.61 | 2-3 | AC | Y | 1.6 | () | 275 | 1 | 4.4 | 8 | 1 | 2 | L | 18 | 21.7 | 1969 | | | 20 |
| 4010 | Potter | IH40 | 78.6 | 82.8 | 14600 | 2.61 | 2 | AC | Y | 1.5 | (83/88) | 275 | 1 | 4.2 | 8 | 1 | 1 | L | 18 | 21.7 | 1969 | 83.99 | 85.5 | 31 |
| 4011 | Potter | IH40 | 54.8 | 61.8 | 10700 | 2.61 | 2 | AC | Y | 1.6 | () | 90 | 5 | 7 | 8 | 1 | 2 | L | 18 | 21.7 | 1973 | | | 44 |
| 4021 | Carson | IH40 | 109.9 | 114.2 | 8150 | | 2 | AC | Y | 1.5 | () | 275 | 4 | 4.3 | 9 | 1 | 1 | L | 19 | 22 | 1981 | | | 26 |
| 4022 | Gray | IH40 | 114.2 | 115.5 | 8200 | 2.61 | 2 | CON | Y | 1.5 | () | 275 | 5 | 1.3 | 9 | 1 | 1 | L | 20 | 22.5 | 1978 | | | 19 |
| 4023 | Gray | IH40 | 123.4 | 125 | 8200 | 2.61 | | | Y | 1.5 | () | 275 | 8 | 1.6 | 8 | 1 | 1 | L | 21 | 23 | 1981 | | | 18 |



***Figure 5.6 Results of query for sections surveyed since 1987***

It is recommended that users unfamiliar with MS Access who wish to construct queries begin by using the Query Wizard, which is accessed by clicking on the drop down arrow next to the new object toolbar button. Sometimes this method will produce exactly the query that's desired, but more often it will at least provide a good starting point for tweaking in design view.

***Running One of the Prepared Reports***

A report in MS Access is just that; a controlled display of data from the tables set in the format desired by the user. Usually, a report print only selected fields from selected records in the tables. Selecting the fields is done by constructing the report using either the Report Wizard or in Design View. Selecting the desired records, however, is accomplished by running a select query as explained above. The select query returns a temporary dataset that is then used by the report form to create the image or printout.

The sample report included called "Locations by GPS Report (surveyed)" uses this technique to eliminate the non-surveyed projects before printing the report. Fig 5.7 shows the list of reports included with the database, with the correct report highlighted for this example.

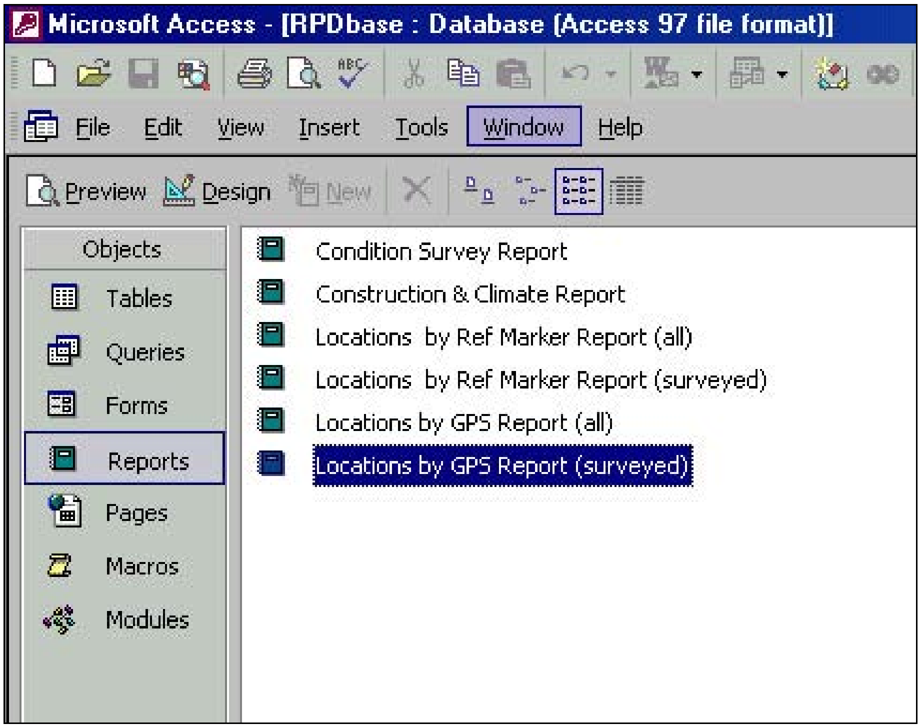



***Figure 5.7 Sample report to list GPS coordinates for all surveyed sections***

Running this sample report produces the output given in its entirety in Appendix D. The photograph which serves as the background for the report was taken of an actual test section in Houston District.

***Preparing a Simple Report***

As with queries and tables, the easiest way to produce a custom report from scratch is to use the "Report Wizard." Often the Report Wizard will produce a useable report, but after some experience using the Design View it's almost always preferable to customize the report as the Design Wizard produces only quite rudimentary output left to its own devices.

In this example, a simple report is created using the Report Wizard. To begin, it is necessary to create a copy of the database that can be modified. The database must be on a local hard drive for this process to work.

Opening a writeable copy of the database creates the screen shown in Fig 5.8. Because the new copy allows write access, the screen now shows the two additional options at the top for creating reports. For this example, the Report Wizard will be used. A report showing location data for the sections will be developed, to include section number, highway, county, starting and ending reference markers, and GPS coordinates.

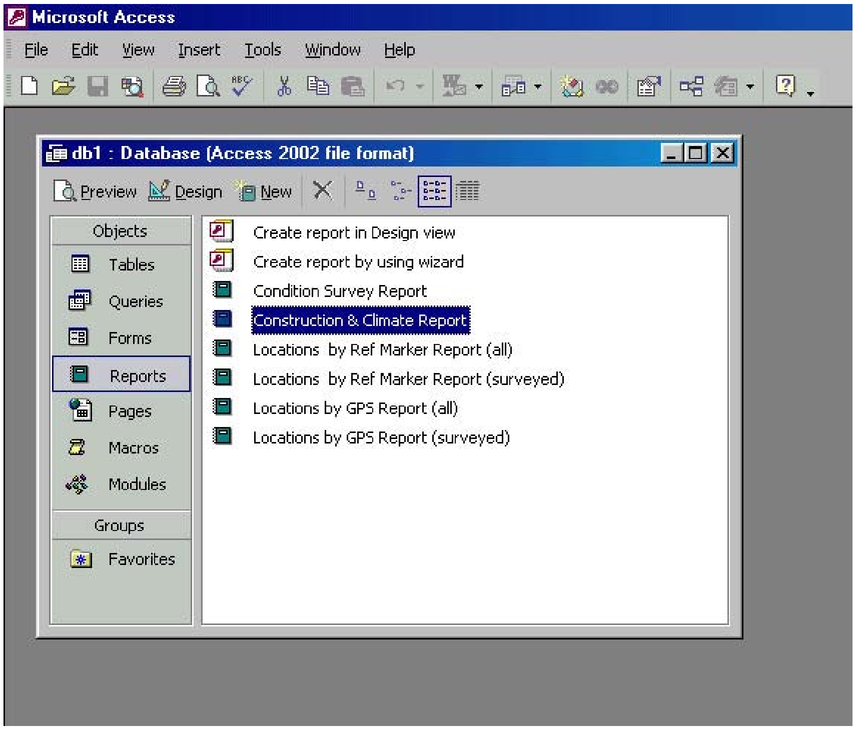



***Figure 5.8 Creating a new report in MS Access***

The process starts by double clicking on the "Create report in Design View" choice, which opens the first of a series of screens show in Fig 5.9. Select the table or query the data is to come from using the menu at top left. Remember that a query can be used to subset the data before constructing the report, if it is desired to use only data within, say, a certain range or under certain conditions. In this example, the already built query of "Projects Surveyed" may be used to report only those sections where a survey has been conducted. In this way, the query is automatically run first, and only those records returned by the query will be shown in the report.

The next step is to choose which fields from the database will be included in the report. The list of fields (see Fig 5.9) is shown at the left of the screen, and clicking on one of the various arrow buttons will add or remove fields from the report. The double arrow keys add all fields at once. In the figure, CFTR, COUNTY, HWY, RMS1, RMS2, LON1, and LAT1 have already been selected by the user.

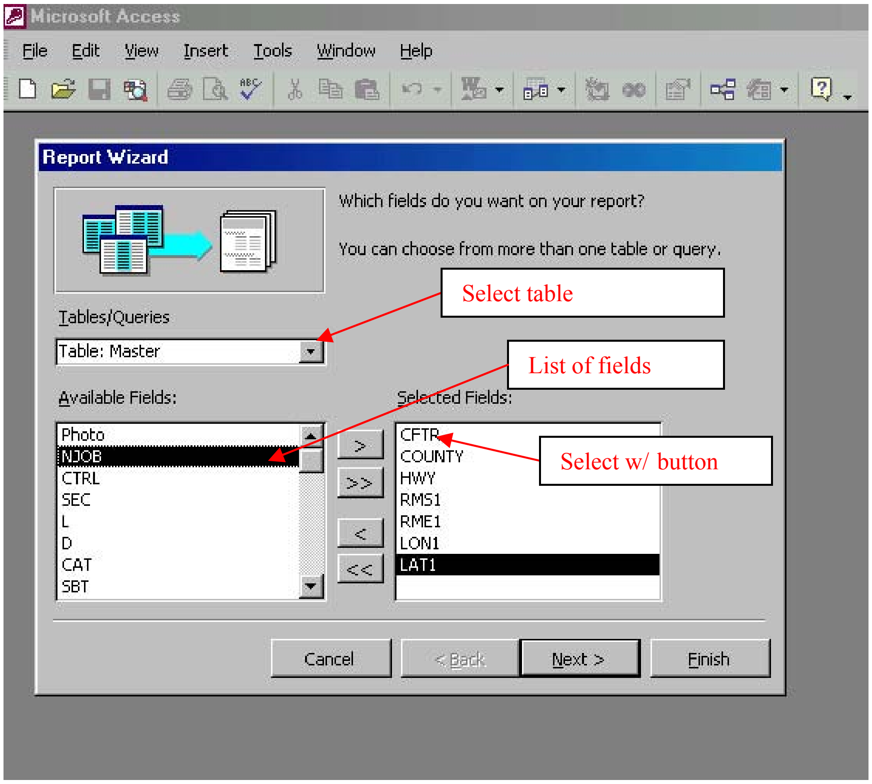



*Figure 5.9 Selecting fields to create a sample report*

Pressing the NEXT > key several times brings up the sort screen shown in Fig 5.10. Sorting is highly desirable to create the report lines in a logical order, in this case by CFTR (ID) number, followed by County.

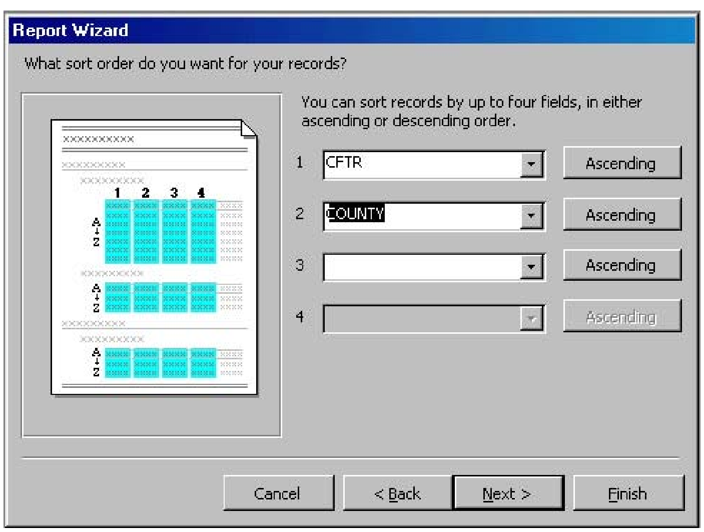



*Figure 5.10 Sorting by ID and County*

Next, the layout of the report is selected, using the screen shown in Fig 5.11. In this case, a standard tabular layout is chosen. Clicking on the other layout options will show a visual preview if a different layout is desired.

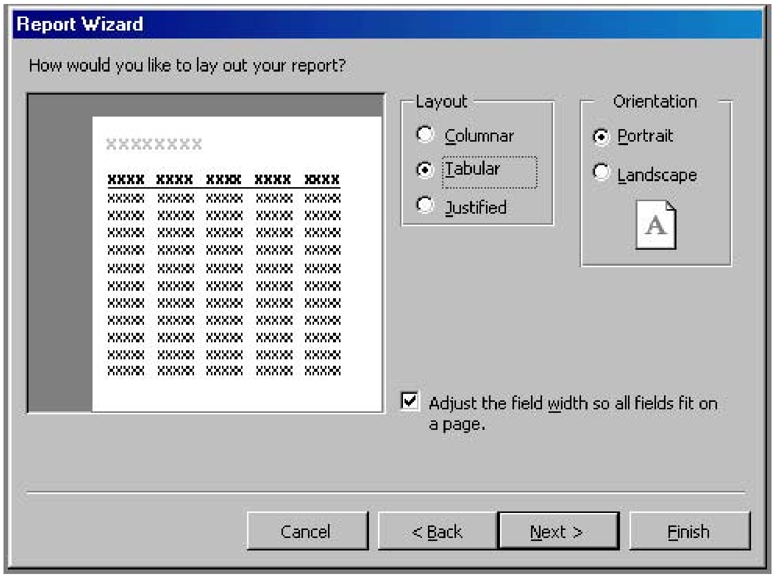



***Figure 5.11 Choosing a report layout***

Finally, a report style is chosen from several choices (Fig 5.12). In this case, "Corporate" has been selected.

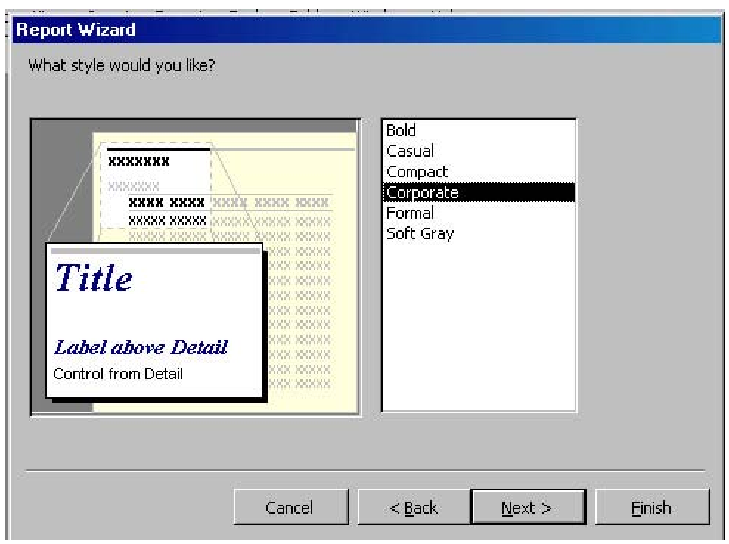
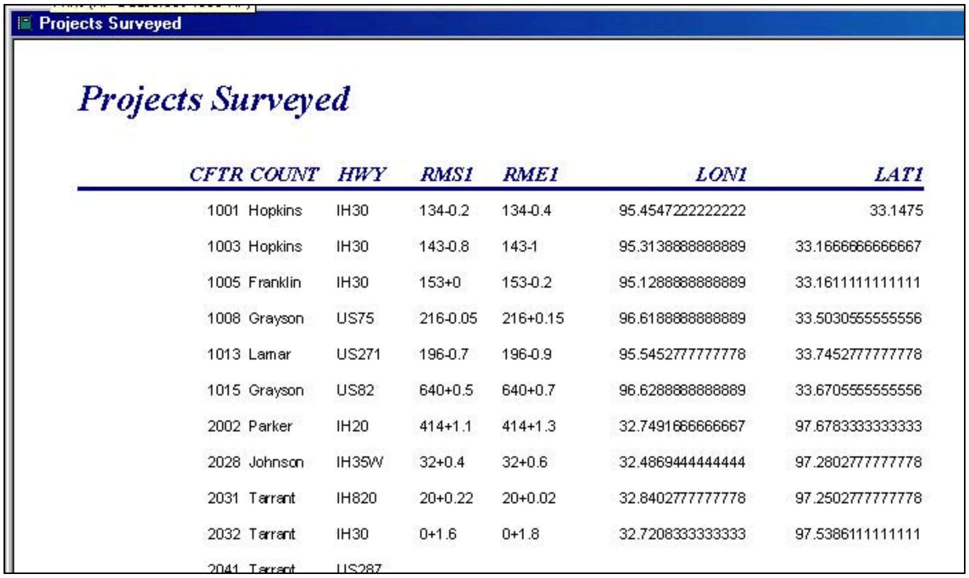



***Figure 5.12 Choosing a report style***

Pressing "Finish" completes the report design, runs the embedded Query, and produces the report (partially) shown in Fig 5.13. Note that this report is similar to the pre-written report included as Appendices C and D, but those have been further modified in Design View.




| CFTR | COUNT | HWY | RMS1 | RME1 | LON1 | LAT1 |
|---|---|---|---|---|---|---|
| 1001 | Hopkins | IH30 | 134-0.2 | 134-0.4 | 95.4547222222222 | 33.1475 |
| 1003 | Hopkins | IH30 | 143-0.8 | 143-1 | 95.3138888888889 | 33.1666666666667 |
| 1005 | Franklin | IH30 | 153+0 | 153-0.2 | 95.1288888888889 | 33.1611111111111 |
| 1008 | Grayson | US75 | 216-0.05 | 216+0.15 | 96.6188888888889 | 33.5030555555556 |
| 1013 | Lamar | US271 | 196-0.7 | 196-0.9 | 95.5452777777778 | 33.7452777777778 |
| 1015 | Grayson | US82 | 640+0.5 | 640+0.7 | 96.6288888888889 | 33.6705555555556 |
| 2002 | Parker | IH20 | 414+1.1 | 414+1.3 | 32.7491666666667 | 97.6783333333333 |
| 2028 | Johnson | IH35W | 32+0.4 | 32+0.6 | 32.4869444444444 | 97.2802777777778 |
| 2031 | Tarrant | IH820 | 20+0.22 | 20+0.02 | 32.8402777777778 | 97.2502777777778 |
| 2032 | Tarrant | IH30 | 0+1.6 | 0+1.8 | 32.7208333333333 | 97.5386111111111 |
| 2041 | Tarrant | US287 | | | | |

***Figure 5.13 Completed example report***

## Internet/LAN Access

The RP Database does not have to be installed on each user's hard drive, in fact there are many reasons it is advantageous not to do so. If the database is installed in a single location, such as on a server PC, all updates are then made to the same copy and version control does not become a problem. In addition, security features can be selected so that only users who are authorized to change the database can do so, but everyone is allowed to access the data in a read only fashion, to produce reports and the like. The following examples illustrate the installation and use of the database on a server, through shared access over a local area network (LAN), or even via the Internet. The current installation on the CTR server is used for all examples.

### *Accessing the RP Database over a Local Area Network*

Several means are available to share a single copy of the RP Database over a LAN. The exact means will depend on the computer operating systems in use, and on the topology and security arrangement of the individual network. There are too many possibilities to list all here, but two of the most commonly used methods will be briefly explained.

If the computer network relies on shared resources rather than a dedicated server, the process is simple. If a shortcut to the computer hosting the database has not already been created on the desktop or elsewhere, it is easy to do so. First, the LAN is accessed using the "Network Neighborhood" icon, double clicking to launch the following (sample) screen (Fig 5.14).

The exact contents of the screen will vary depending on which Windows OS is being used, but somewhere on the screen will appear the computer on which the RP Database is being hosted. Double click on that computer's icon to open access to the hard drive. A security screen will likely pop up (not reproduced here for obvious reasons) and a password may be required. After access is established, a shortcut may be created on the desktop if desired by right-clicking on the computer icon and selecting "Create Shortcut."

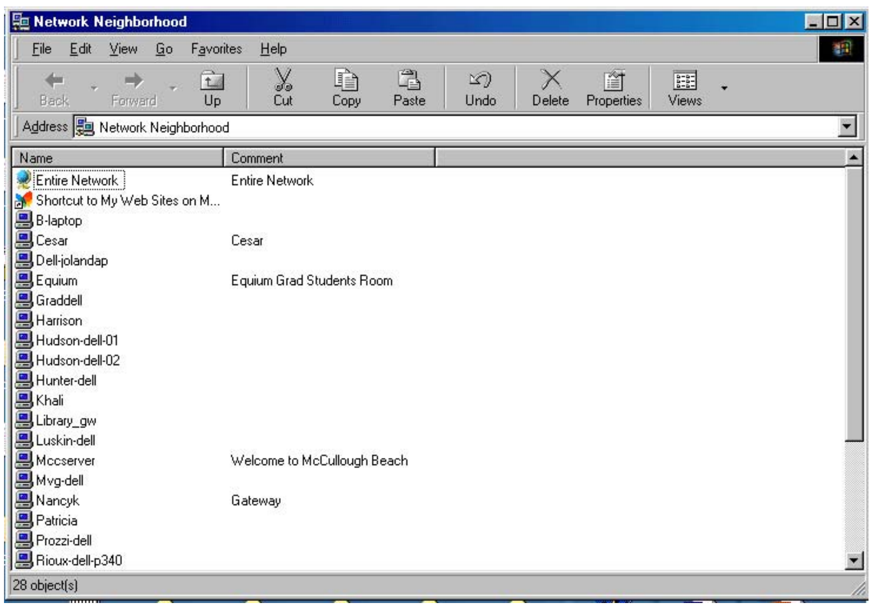



***Figure 5.14 Finding other computers on the local area network***

All that remains is to find the RP Database on the remote computer and double click on its icon to launch the database. The file name is RPD2000.mdb.

This approach will also work with a dedicated Windows server hosting the database, but generally work stations attached to a server will establish the connectivity and password access at the time the work station machine is logged on.

### *Accessing the RP Database over the Internet*

In fact, it's not even necessary to host a copy of the database on any local machine. The official, constantly modified and backed up copy, the only copy that is always up to date, resides on the CTR server which is accessible anywhere in the world via the Internet. There are two basic ways to access the CTR server remotely, by using a standard web browser or by using an installed FTP client.

Using a standard browser like MS Internet Explorer, or Netscape is a very simple way to access the database using familiar tools. Unfortunately, results vary depending on the version of your browser and any firewalls or other security measures your network administrator may have put in place. Still, it's worth a try. The IP address of the CTR server is 146.6.177.170, so enter the following line into the browser window:

***ftp://ctr@146.6.177.170***

If you are reading this report on your computer, you may simply click on the link above. Otherwise, you'll have to type it into the browser window. A prompt will appear asking for a password which you'll have to obtain from our network administrator. If it works, you'll be looking at a screen resembling Fig. 5.15 below.

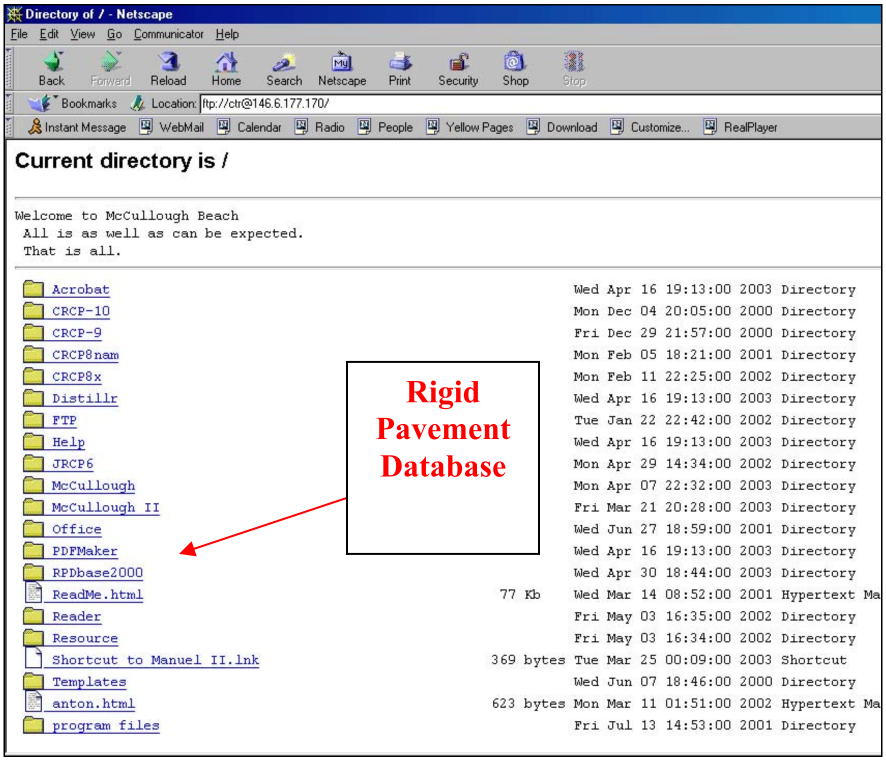



*Figure 5.15 Accessing the RP Database using an Internet browser*

From this point onward it's exactly like navigating folders on any computer. Note the arrow in the figure points to the RPDbase2000 folder which is where the database is kept.

If that does not work for some reason, there is another option which will always work: using a dedicated FTP client to retrieve the database from our server using File Transfer Protocol. Although there are many FTP clients, one of the best and most commonly used is WS_FTP from http://www.ipswitch.com. The program is easily downloaded from their website and is completely free. Of course, there is also a deluxe version available from them which has a few additional features for a few additional dollars. The freeware version is entirely adequate for accessing the RP Database, and then some.

After downloading and installing the program, launching it gives the screen shown in Fig 5.16. Note that the IP address given above and password (not given above) must be typed into the input screen along with the other information shown. The information is filled in, and OK is pressed to start the connection. If all goes well, a "train" sound will suddenly be heard and the screen in Fig 5.17 will appear.

Navigating the screen in Fig 5.17 is very straightforward. The computer files shown on the left section are on the user's own computer, the files and folders shown in the right section are on the remote computer, in this case the CTR server where the RP Database is kept.

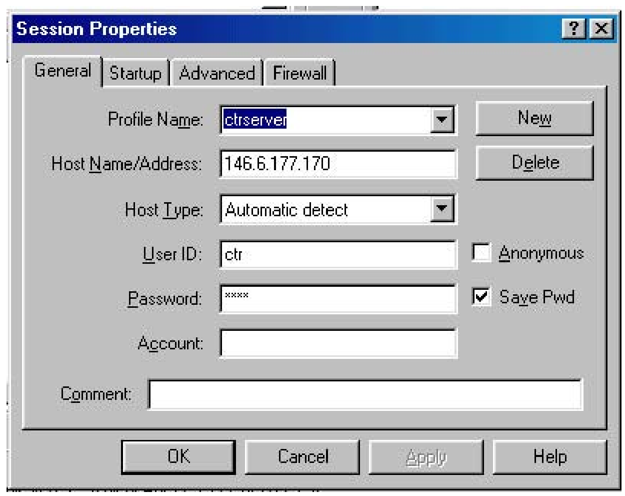



*Figure 5.16 Accessing the database via WS_FTP*

To move a file from the remote computer (listed in the right window), a file is clicked to select it, then the left pointing arrow button is pressed (see red arrow) to move it over to the local computer (left window). The file will be moved to whatever directory on the local (client) computer is showing in the left window when the button is pushed. Press CLOSE and click the top right X box to end the session when done.

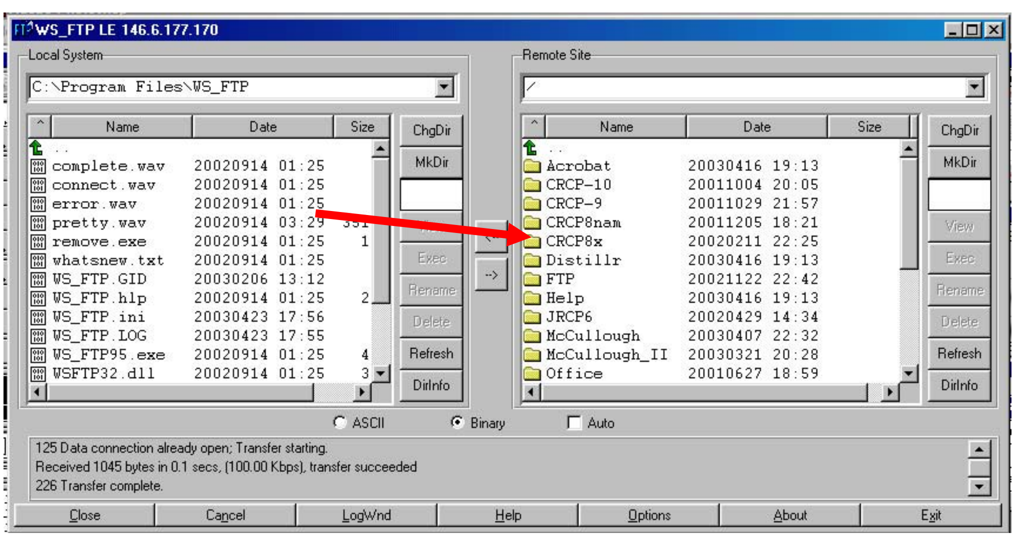



*Figure 5.17 Transfer of files from server to client using WS_FTP*

### *Setting Up the RP Database on a Server*

The above example shows how to access the database directly from the CTR server. If it is desired to set up a version of the database on another server, the necessary steps depend to a great extent on the server OS being used. Whether that is Windows NT, Windows XP, or another server, the basic idea is the same.

The first step is to log on to the server and physically copy the file (RPDbase2000.mdb) to the desired folder on the server. Permissions must then be set to allow the desired users to access it. This is generally done using a "Common Administrative Applications" wizard that comes with the server. After granting permissions, file shares must be set up by right clicking the folder or hard drive containing the database files, then following the menu to set up permissions for write, change, modify, full control, etc. for each category of user. For full instructions, consult the server manager at your installation, or see Windows HELP if that unfortunate person is you.

## Accessing the RP Database from another application

All of the above examples have been restricted to using MS Access as the software application. Happily, many other applications can also import or open Access files and deal with the data directly. Not surprisingly, many of those applications turn out to be Microsoft applications that many people use on a daily basis. The following brief examples are given for users who wish to access the data through SAS, Excel, MS Word, and Visual Basic. Each of those applications has strong advantages over using MS Access for analysis, charting, reporting, and interfacing respectively.

### *From SAS*

The Statistical Analysis System, or SAS, is arguably the package of choice for analyzing the sort of trend data that is present in the RP database. SAS includes hundreds of comprehensive, pre-written analysis packages covering applications involving statistical analysis, operations research, charting, forecasting, and countless others (SAS 1990). It has been used extensively in the past in conjunction with the RP Database on several research projects (Ref 1-10).

It's a simple matter to open an Access database using SAS. After launching SAS, under the FILE menu the choice IMPORT appears. Selecting this choice and choosing an Access file results in a conversion directly to a SAS dataset which can be used immediately as if the data were created in SAS. In a similar manner, any SAS dataset may be exported using the EXPORT command to create an Access database.

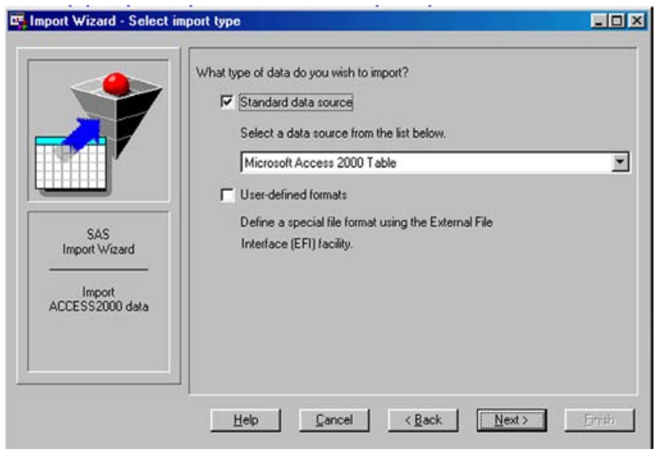



***Figure 5.18 Importing the Access database into SAS***

***From Excel***

MS Excel, as would be expected, has no problem opening MS Access database files. To open an Access file, OPEN is chosen under the file menu, and the usual Windows navigation is used to find the local or LAN location of the database file (RPDbase2000.mdb). Double clicking on the icon actually opens Access, a window of which appears in the Excel window giving a choice of tables and queries which have been saved in the Access database (Fig 5.19). Remember that queries are simply a revised table that has had some rows eliminated, so a query can be thought of as a table and thus opened by Excel. Double clicking on the table or query desired opens the familiar Excel worksheet with those data values and column titles in place.

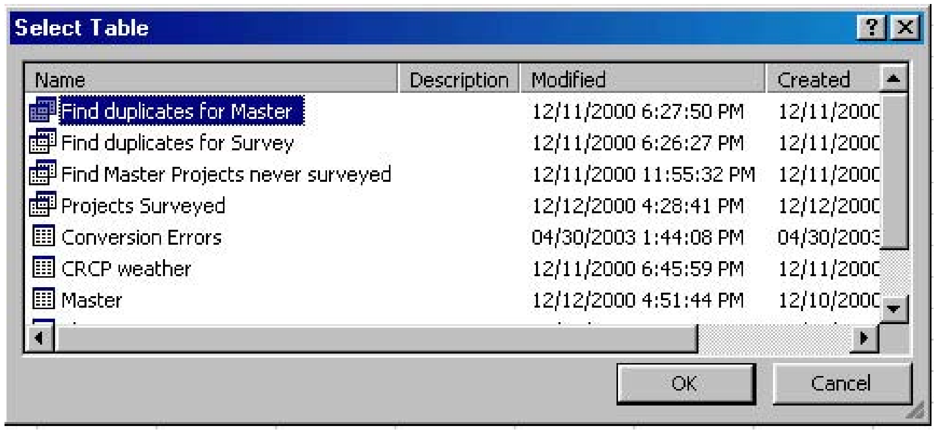



***Figure 5.19 Opening an Access database from within Excel***

Excel is highly recommended as an application for creating quick and great looking charts from any Access database. The charting capabilities of Access are similar to Excel, but not as easy to use, especially for a person who is already familiar with Excel.

***From MS Word***

Opening an Access database from the latest versions of MS Word can be done, but is not recommended because most reporting needs can be better served by first importing the Access files into Excel as shown above, then pasting the worksheet portions needed into a MS Word table.

***From Visual Basic***

Visual Basic, also published by Microsoft, is specifically designed to work with .mdb files, that is with Access databases. Consequently, there are several ways to work with these files under program control that are well beyond the scope of this discussion, and quite different that in any of the previous applications discussed. The difference is that Visual Basic does not just import the files (although it can be used to do that) but works with them dynamically under program control.

Visual Basic is by far the most powerful and flexible means to create a totally fluid user interface to MS Access, and is highly recommended as a tool for any of the applications mentioned at the beginning of this section. However, VB has a steep learning curve for non-programmers, so one of the other applications is generally preferred when a simple task is attempted.

See the VB manual in the reference section if additional information pertaining to accessing .mdb files from Visual Basic is desired. Visual Basic is part of the Microsoft Visual Studio suite of programs.

## Summary

This chapter presents a brief overview of many ways to use the RP Database on multiple platforms, to perform various common tasks, using several different software applications, not limited to MS Access itself. Obviously, the scope of MS Access plus the hardware and software that can be used with it is enormous and far too wide reaching to be addressed in this report. Instead, several typical examples were presented in an effort to provide a broad idea of the sort of tasks that can be accomplished using the database. References are given for the interested user who requires more information or intends to undertake more complex tasks.

At some point, it may become desirable to create a comprehensive user manual for the RP Database; this is not that document. It is instead a research report that must include in its scope not only ways to use the database, but also a summary of database contents and an explanation and justification for the design methodology used to create the database.

# 6. Conclusions & Recommendations

## Introduction

No collection of data, no matter how extensive or how pertinent to the task at hand, is of any value if it cannot be readily accessed by those who need to use it. Mountains of potentially useful research data are currently residing on magnetic tape volumes, punched card decks, computer diskettes, and unlabeled CD ROMs in desk drawers, filing cabinets, and bookshelves virtually everywhere research is conducted. Though this data records a wide variety of information, what all of it has in common is that at some point a decision was made, either actively or by default, that continuing to maintain the data was no longer worth the time and money.

In some cases, to be sure, the data had served out its useful purpose and was gracefully retired. But in others, a poorly conceived, implemented, or maintained data management system in effect led to the premature loss of the considerable work that went into collecting the data. In any organization, data that is difficult to access and use will ultimately not be used. Once updating stops, the data becomes less than current, and a downward spiral begins that can only result in the "CD in a pile" scenario. Often, the next step is a gap of a few years wherein nothing is done, after which the need for the information becomes evident again and a new effort is launched. "Reinventing the wheel," at considerable additional cost compared to the alternative of maintaining and modifying the original to keep it useful, is the usual result.

The Rigid Pavement Database is currently at this point in its evolution. It has shown its worth repeatedly across dozens of research projects through the years, providing essential data for performance modeling and other empirical studies. No other resource is currently in place that can provide this service, a 30 year detailed record of actual pavement performance in the field. Either the RP Database will go the way of its contemporary, the Flexible Pavement Database at Texas Transportation Institute (which sits unused on a magnetic tape), or it will be updated and restructured to fit the needs of today. As always, improved user access will be a vital part of the updating process.

The purpose of this document is to begin that process.

## Conclusions

Using the database software to prepare this document has given a clear picture of where the RP database stands, and what remains to be done to make it the best resource it can be for the job it does. The following are some conclusions drawn from that experience, and the experience of others who use the database:

- The CRCP data in the RP database is very sound. It has been checked and rechecked for reasonableness and internal consistency, and archived carefully so that nothing has been lost. Paper copies of the actual surveys have been kept on file and have been used to resolve discrepancies from time to time.
- The JCP data is also sound, particularly the data collected after JCP surveys resumed in 1990. The older data, from 1982 and 1984 needs some additional work to bring it up to the quality of the newer data, and to insure continuity of the distress history (different distress definitions)
- The demographic for the database is still primarily 8 inch CRCP pavement, with a growing population of overlaid 8 inch CRCP. However, that is the demographic of the actual highway system in place. An emphasis has been placed on adding more thick sections (> 12 inch) to the database, and that has been done in the last two survey cycles.
- The SAS system for accessing the data is still the better system for doing data analysis, and in fact is more user friendly for even simple tasks such as charting and data retrieval. MS Access has very limited analysis capabilities. However, SAS can easily use MS Access files so there is no conflict in this area.
- The MS Access version of the database is a good beginning and shows promise, but MS Access is difficult for the average user and a more user-friendly interface is required if engineers are to use it.
- Adding remote access capability to the RP Database has expanded the number of users of the database worldwide, as has providing the database on inexpensive CD ROM to anyone who requests it. According to the server Internet logs, the copy of the database which resides on the CTR server is accessed several times per day by users from the US and elsewhere.

## Recommendations

From the conclusions above and the body of work presented in this document, several recommendations logically flow:

- The RP Database must continue to be maintained in some form indefinitely to provide the empirical performance data used by so many studies.
- The contents and collection factorial for the RP database should be examined again to insure it meets current TxDOT needs, after reviewing this document and the next and final report on the database contents.
- The type of data currently collected should be reviewed, to possibly include information collected by newer technologies to the database.
- The RP Database should be maintained in MS Access format since Access is readily available to such a wide base of users and compatible with such a wide range of applications, including SAS.
- Additional work is needed to develop a better user interface for the MS Access version of the RP Database than the standard interface provided by Access. Ultimately, however, a comprehensive user-friendly front end needs to be provided that would better be written in Visual Basic or SAS, due to the limited programmability of Access.
- The jointed pavement data, which currently resides in a separate and less-organized Access database, should be merged with the main Access database, adding a variable for pavement type and the necessary additional distress variables.
- The jointed pavement data from 1982 and 1984 should be cleaned up and organized, and where possible, included in the main database.
- CTR should work with TxDOT to develop a number of standard queries and reports to be used directly in Access, for the purpose of displaying selected portions of the data, with possibly some simple charting capability. Or, this could be done in Visual Basic.
- Internet access to the RP database has made the data useful to the larger research community. TxDOT may wish to consider registering online users so that a

profile of database use can be established with an purpose of more widely disseminating the information.

- Distribution of the RP Database on CDR media should be encouraged as it is an inexpensive way to promote the results of TxDOT funded research to other federal and state agencies.

## Summary

The RP Database continues to be an important resource that must not be abandoned. A few important changes are needed to keep the database current, representative of the state's pavement population, relevant for TxDOT, and accessible to the latest computer software applications. The work documented herein is a good start on that process, but some additional work remains to be done.

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10. Weissmann, Angela, and Kenneth Hankins. “Development of Procedures for a Statewide Diagnostic Survey on Continuously Reinforced Concrete Pavements.” Research Report 472-4. Center for Transportation Research. The University of Texas at Austin. November 1989.

11. Simpson, Alan, and Elizabeth Olson, “Mastering Access 97,” Fourth Edition, SYBEX Publishing, 1997.

12. SAS Institute, Inc., “SAS Language: Reference, Version 6, First Edition,” Cary NC, SAS Institute Inc., 1990.

# List of Appendices

# Appendix A.
# SAS One Page Summary Report
# (Selected Pages)

## SECTION ID

| | | |
|---|---|---|
| CFTR: 1001 | District: 1 | County: Hopkins |
| CTRL: 10 | Section: 2 | Job: 23 |
| Hwy: IH30 | Location: MP 128.4 - MP 134.4 | |

S1: MILE 133.8 - MILE 133.6
S2: MILE 133.5 - MILE 133.3
S3: MILE 132.7 - MILE 132.5
S4: MILE 131.6 - MILE 131.4
S5: MILE 130.4 - MILE 130.2
S6: JUST AFTER MP 130 - MP 129.8

| | Reference Markers | Lane | GPS Coordinates | |
|---|---|---|---|---|
| S1: | RM 134-0.2 to 134-0.4 | L1 | N 33.1475 | W 95.4547 |
| S2: | RM 134-0.5 to 134-0.7 | L1 | N 33.1469 | W 95.4600 |
| S3: | RM 133-0.3 to 133-0.5 | L1 | N 33.1469 | W 95.4619 |
| S4: | RM 132-0.45 to 132-0.65 | L1 | N 33.1469 | W 95.4931 |
| S5: | RM 131-0.6 to 131-0.8 | L1 | N 33.1469 | W 95.5131 |
| S6: | RM 130+0 to 130-0.2 | L1 | N 33.1469 | W 95.5200 |

## CONSTRUCTION

| | | | | |
|---|---|---|---|---|
| Constructed: | 1964.0 | Evap(const): | 0.063 | |
| HiTemp(const) | 53 | Swelling: | High | |
| Thickness: | 8 | LoTemp(const): | 6.1 | |
| Subbase: | Cmnt Trt | | Year | Job |
| Coarse agg: | LS | 1st Ovly: | 86.67 | 50 |
| Length: | 6.00 | 2nd Ovly: | . | |
| Avg Low Temp: | 12.8 | 3rd Ovly: | . | |
| Avg Yr Rainfall: | 44.2 | 4th Ovly: | . | |

## TRAFFIC

| YR | ADT | %TRUCK | ATHWL | %TAND | ESAL2 |
|---|---|---|---|---|---|
| 94 | . | | | | |
| 93 | 19000 | | | | |
| 92 | 21000 | | | | |
| 91 | 17500 | | | | |
| 90 | 14700 | | | | |
| 86 | 15100 | 28 | 13000 | 70 | 2347248 |
| 85 | 16000 | 29 | 13400 | 70 | 2464237 |
| 84 | 16000 | 23 | 13300 | 70 | 2100293 |
| 83 | 15000 | 26 | 13300 | 70 | 2179826 |
| 82 | 13800 | 25 | 13200 | 70 | 1967062 |
| 81 | 13000 | 29 | 13700 | 60 | 2748687 |
| 80 | 11800 | 31 | 13600 | 60 | 2573578 |
| 79 | 11620 | 25 | 13400 | 60 | 2040551 |
| 78 | 11940 | 26 | 14000 | 30 | 1962643 |
| 77 | 11340 | 25 | 14000 | 30 | 1800289 |
| 76 | 10560 | 26 | 14000 | 30 | 1768775 |
| 75 | 10050 | 26 | 14000 | 30 | 1689627 |
| 74 | 9460 | 26 | 13900 | 30 | 1590435 |
| 73 | 10080 | 24 | 13900 | 30 | 1549904 |
| 72 | 9410 | 21 | 13800 | 30 | 1221526 |
| 71 | 9160 | 20 | 13700 | 30 | 1112714 |
| 70 | 8230 | 18 | 13500 | 40 | 926323 |
| 69 | 7420 | 23 | 13600 | 30 | 1011146 |
| 68 | 7180 | 20 | 13500 | 40 | 873369 |
| 67 | 6330 | 18 | 13300 | 40 | 657260 |
| 66 | 6000 | 18 | 13200 | 40 | 584597 |
| 65 | 6410 | 16 | 13200 | 40 | 506265 |
| 64 | 5250 | 18 | 13100 | 40 | 497478 |

## 1987 DEFLECTIONS (9 Kips)

| SEC | LOC | DF1 | DF2 | DF3 | DF4 | DF5 | DF6 | DF7 | OVR | CONF |
|---|---|---|---|---|---|---|---|---|---|---|
| 1W | EDG | 7.32 | 4.21 | 3.68 | 3.01 | 2.37 | 1.78 | 1.39 | Y | C |
| 1W | INT | 6.60 | 3.40 | 3.05 | 2.58 | 2.10 | 1.62 | 1.30 | Y | C |
| 2W | EDG | 7.85 | 5.90 | 5.14 | 4.22 | 3.35 | 2.54 | 2.00 | Y | C |
| 2W | INT | 6.02 | 4.04 | 3.58 | 3.02 | 2.47 | 1.92 | 1.55 | Y | C |
| 3W | EDG | 7.31 | 5.47 | 4.67 | 3.80 | 3.02 | 2.30 | 1.86 | Y | C |
| 3W | INT | 5.92 | 4.07 | 3.59 | 3.02 | 2.46 | 1.94 | 1.57 | Y | C |
| 4W | EDG | 6.28 | 5.09 | 4.27 | 3.40 | 2.63 | 1.95 | 1.53 | Y | C |
| 4W | INT | 5.77 | 3.98 | 3.45 | 2.86 | 2.29 | 1.76 | 1.41 | Y | C |
| 5W | EDG | 7.74 | 5.89 | 5.06 | 4.11 | 3.24 | 2.45 | 1.95 | Y | C |
| 5W | INT | 6.36 | 3.55 | 3.22 | 2.73 | 2.25 | 1.79 | 1.46 | Y | C |
| 6W | EDG | 7.44 | 5.70 | 4.86 | 3.98 | 3.18 | 2.45 | 1.99 | Y | C |
| 6W | INT | 5.68 | 3.63 | 3.23 | 2.74 | 2.28 | 1.82 | 1.52 | Y | C |

## CONDITION SURVEY

| SEC | YR | POS | CURVE | OVR | LEN | ACP | PCP | MPO | SPO | CRKS | Rut | Blok | LC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1W | 00 | Grade | No | Y | 1000 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 1W | 96 | Cut | N/A | Y | 1000 | 0 | . | 0 | 0 | 1 | 0.0 | 0.0 | 0 |
| 1W | 94 | Cut | N/A | Y | 1000 | 0 | 0 | . | . | 1 | . | . | . |
| 1W | 87 | Cut | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 1W | 84 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 82 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 80 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 78 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 74 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2W | 00 | Fill | No | Y | 1000 | 1 | 0 | 0 | 0 | 2 | 0.0 | 0.0 | 0 |
| 2W | 96 | Trans | N/A | Y | 1000 | 1 | . | 0 | 0 | 1 | 0.0 | 0.0 | 0 |
| 2W | 94 | Trans | N/A | Y | 1000 | 0 | 0 | . | . | 7 | . | . | . |
| 2W | 87 | Trans | Yes | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 2W | 84 | Trans | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 82 | Trans | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 80 | Trans | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 78 | Trans | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 74 | Trans | Yes | . | 1000 | . | . | . | . | . | . | . | . |
| 3W | 00 | Grade | No | Y | 1000 | 0 | 0 | 0 | 0 | 5 | 0.0 | 0.0 | 0 |
| 3W | 96 | Grade | N/A | Y | 1000 | 0 | . | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 3W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 1 | . | . | . |
| 3W | 87 | Grade | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 3W | 84 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 82 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 80 | Grade | No | . | 1000 | 0 | 0 | 2 | 1 | . | . | . | . |
| 3W | 78 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 74 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 4W | 00 | Cut | No | Y | 1000 | 0 | 0 | 0 | 0 | 7 | 0.0 | 0.0 | 0 |
| 4W | 96 | Cut | N/A | Y | 1000 | 0 | . | 0 | 0 | 2 | 0.0 | 0.0 | 0 |
| 4W | 94 | Cut | N/A | Y | 1000 | 0 | 0 | . | . | 1 | . | . | . |
| 4W | 87 | Cut | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 4W | 84 | Cut | No | . | 1000 | 2 | 0 | 0 | 1 | . | . | . | . |
| 4W | 82 | Cut | No | . | 1000 | 1 | 0 | 3 | 0 | . | . | . | . |
| 4W | 80 | Cut | No | . | 1000 | 1 | 0 | 1 | 0 | . | . | . | . |
| 4W | 78 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4W | 74 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |
| 5W | 00 | Fill | No | Y | 1000 | 0 | 0 | 0 | 0 | 9 | 0.0 | 0.0 | 0 |
| 5W | 96 | Fill | N/A | Y | 1000 | 0 | . | 0 | 0 | 1 | 0.0 | 0.0 | 0 |
| 5W | 94 | Fill | N/A | Y | 1000 | 0 | 0 | . | . | 2 | . | . | . |
| 5W | 87 | Fill | Yes | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 5W | 84 | Fill | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5W | 82 | Fill | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5W | 80 | Fill | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5W | 78 | Fill | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5W | 74 | Fill | Yes | . | 1000 | . | . | . | . | . | . | . | . |
| 6W | 00 | Trans | No | Y | 1000 | 0 | 0 | 0 | 0 | 4 | 0.0 | 0.0 | 0 |
| 6W | 96 | Fill | N/A | Y | 1000 | 0 | . | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 6W | 94 | Fill | N/A | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 6W | 87 | Fill | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 6W | 84 | Fill | No | . | 1000 | 1 | 0 | 0 | 0 | . | . | . | . |
| 6W | 82 | Fill | No | . | 1000 | 0 | 0 | 1 | 0 | . | . | . | . |
| 6W | 80 | Fill | No | . | 1000 | 0 | 0 | 1 | 0 | . | . | . | . |
| 6W | 78 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 6W | 74 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |

## SECTION ID

CFTR: 3010 District: 3 County: Wichita
CTRL: 43 Section: 8 Job: 22
Hwy: US287 Location: MP 0 - MP 9.1

S1: MP 1 - 1000 FT S OF MP 1
S2: 1000 FT N OF MP 2 - MP 2
S3: 500 FT N OF MP 3 - 500 FT S OF MP 3
S4: 1500 FT S OF MP 8 -
S5: 1000 FT S OF MP 2 - MP 2
S6: 1000 FT S OF MP 3 - MP 3

| | Reference Markers | Lane | GPS Coordinates | |
|---|---|---|---|---|
| S1: | RM 314+1.0 to 314+1.2 | R1 | N 98.9356 | W 34.0444 |
| S2: | RM 316-0.2 to 316+0.0 | R1 | N 98.9169 | W 34.0436 |
| S3: | RM 316+0.9 to 316+1.1 | R1 | N 98.9019 | W 34.0408 |
| S4: | RM 322+0.3 to 322+0.5 | R1 | N 98.8297 | W 33.9925 |
| S5: | RM 316+0.2 to 316+0.05 | L1 | N 98.9175 | W 34.0450 |
| S6: | RM 317+0.2 to 317+0.0 | L1 | N 98.8825 | W 34.0386 |

## TRAFFIC

| YR | ADT | %TRUCK | ATHWL | %TAND | ESAL2 |
|---|---|---|---|---|---|
| 94 | 12200 | | | | |
| 93 | 11000 | | | | |
| 92 | 9900 | | | | |
| 91 | 12200 | | | | |
| 90 | 8100 | | | | |
| 85 | 8467 | 26 | 12000 | 80 | 1235709 |
| 85 | 8567 | 32 | 12467 | 70 | 1578568 |
| 84 | 9300 | 33 | 13367 | 70 | 1745264 |
| 83 | 8300 | 31 | 13100 | 70 | 1462634 |
| 82 | 6833 | 26 | 12600 | 80 | 1010357 |
| 81 | 6667 | 31 | 12900 | 60 | 1472159 |
| 80 | 6333 | 36 | 12900 | 70 | 1681467 |
| 79 | 7070 | 24 | 12800 | 60 | 1157569 |
| 78 | 7993 | 24 | 13800 | 40 | 1180036 |
| 77 | 7020 | 28 | 13833 | 40 | 1214469 |
| 76 | 6837 | 28 | 13733 | 40 | 1187551 |
| 75 | 6510 | 28 | 13733 | 40 | 1124677 |
| 74 | 5750 | 23 | 13400 | 50 | 814654 |
| 73 | 6277 | 22 | 13467 | 50 | 910704 |
| 72 | 6017 | 21 | 13333 | 50 | 790216 |
| 71 | 5663 | 20 | 13300 | 56 | 710008 |
| 70 | 5153 | 22 | 13267 | 56 | 708892 |
| 69 | 5567 | 21 | 13300 | 53 | 737607 |
| 68 | 4973 | 23 | 13233 | 56 | 697047 |

## 1987 DEFLECTIONS (9 Kips)

| SEC | LOC | DF1 | DF2 | DF3 | DF4 | DF5 | DF6 | DF7 | OVR | CONF |
|---|---|---|---|---|---|---|---|---|---|---|
| 5N | EDG | 8.08 | 7.53 | 6.59 | 5.50 | 4.46 | 3.45 | 2.65 | N | C |
| 5N | INT | 5.64 | 5.21 | 4.53 | 3.77 | 3.09 | 2.42 | 1.88 | N | C |
| 6N | EDG | 7.61 | 7.06 | 6.15 | 5.03 | 3.97 | 2.96 | 2.16 | N | C |
| 6N | INT | 4.31 | 3.91 | 3.33 | 2.69 | 2.13 | 1.61 | 1.21 | N | C |
| 1S | EDG | 6.51 | 6.03 | 5.18 | 4.24 | 3.37 | 2.57 | 1.93 | N | C |
| 1S | INT | 4.71 | 4.38 | 3.82 | 3.22 | 2.66 | 2.14 | 1.68 | N | C |
| 2S | EDG | 7.13 | 6.69 | 5.91 | 5.00 | 4.10 | 3.23 | 2.54 | N | C |
| 2S | INT | 4.95 | 4.61 | 4.05 | 3.44 | 2.85 | 2.28 | 1.81 | N | C |
| 3S | EDG | 6.21 | 5.70 | 4.89 | 3.86 | 3.04 | 2.22 | 1.62 | N | C |
| 3S | INT | 4.58 | 4.22 | 3.62 | 2.96 | 2.38 | 1.81 | 1.36 | N | C |
| 4S | EDG | 9.21 | 8.68 | 7.83 | 6.78 | 5.69 | 4.58 | 3.66 | N | C |
| 4S | INT | 5.16 | 4.73 | 4.12 | 3.41 | 2.77 | 2.16 | 1.65 | N | C |

## CONSTRUCTION

| | | | |
|---|---|---|---|
| Constructed: | 1968.8 | Evap(const): | 0.100 |
| HiTemp(const) | 76 | Swelling: | Low |
| Thickness: | 8 | LoTemp(const): | 10.0 |
| Subbase: | Cmnt Trt | | Year Job |
| Coarse agg: | LS | 1st Ovly: | . |
| Length: | 9.10 | 2nd Ovly: | . |
| Avg Low Temp: | 6.5 | 3rd Ovly: | . |
| Avg Yr Rainfall: | 28.3 | 4th Ovly: | . |

## CONDITION SURVEY

| SEC | YR | POS | CURVE | OVR | LEN | ACP | PCP | MPO | SPO | CRKS | Rut | Blok | LC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1S | 99 | N/A | N/A | N | 1000 | 1 | 1 | 0 | 0 | 180 | . | 0.0 | . |
| 1S | 94 | N/A | N/A | N | 1000 | 0 | 0 | 0 | 0 | 186 | . | . | . |
| 1S | 87 | Grade | No | N | 1000 | 0 | 0 | 15 | 0 | 174 | . | . | . |
| 1S | 84 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1S | 82 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1S | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1S | 78 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1S | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2S | 99 | N/A | N/A | N | 1000 | 0 | 0 | 0 | 0 | 182 | . | 0.0 | . |
| 2S | 94 | Fill | N/A | N | 1000 | 0 | 0 | 0 | 0 | 189 | . | . | . |
| 2S | 87 | Fill | No | N | 1000 | 0 | 0 | 5 | 0 | 172 | . | . | . |
| 2S | 84 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2S | 82 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2S | 80 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2S | 78 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2S | 74 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3S | 99 | N/A | N/A | N | 1000 | 0 | 0 | 0 | 0 | 160 | . | 0.0 | . |
| 3S | 94 | Cut | N/A | N | 1000 | 0 | 0 | 0 | 0 | 175 | . | . | . |
| 3S | 87 | Cut | No | N | 1000 | 0 | 0 | 13 | 0 | 151 | . | . | . |
| 3S | 84 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3S | 82 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3S | 80 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |
| 3S | 78 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3S | 74 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4S | 99 | N/A | N/A | N | 1000 | 0 | 10 | 0 | 0 | 187 | . | 0.0 | . |
| 4S | 94 | Fill | N/A | N | 1000 | 1 | 3 | 0 | 0 | 221 | . | . | . |
| 4S | 87 | Trans | Yes | N | 1000 | 0 | 0 | 11 | 0 | 195 | . | . | . |
| 4S | 84 | Trans | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4S | 82 | Trans | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4S | 80 | Trans | Yes | . | 1000 | . | . | . | . | . | . | . | . |
| 4S | 78 | Trans | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4S | 74 | Trans | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5N | 99 | N/A | N/A | N | 760 | 0 | 0 | 0 | 0 | 150 | . | 0.0 | . |
| 5N | 94 | Fill | N/A | N | 1000 | 0 | 0 | 0 | 0 | 216 | . | . | . |
| 5N | 87 | Fill | No | N | 600 | 0 | 0 | 9 | 0 | 113 | . | . | . |
| 5N | 84 | Fill | No | . | 600 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5N | 82 | Fill | No | . | 600 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5N | 80 | Fill | No | . | 600 | . | . | . | . | . | . | . | . |
| 5N | 78 | Fill | No | . | 600 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5N | 74 | Fill | No | . | 600 | 0 | 0 | 0 | 0 | . | . | . | . |
| 6N | 99 | N/A | N/A | N | 1000 | 1 | 0 | 0 | 0 | 169 | . | 0.0 | . |
| 6N | 94 | Cut | N/A | N | 1000 | 2 | 2 | 0 | 0 | 160 | . | . | . |
| 6N | 87 | Cut | No | N | 1000 | 0 | 0 | 8 | 0 | 164 | . | . | . |
| 6N | 84 | Cut | No | . | 1000 | 1 | 0 | 0 | 0 | . | . | . | . |
| 6N | 82 | Cut | No | . | 1000 | 1 | 0 | 0 | 0 | . | . | . | . |
| 6N | 80 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |
| 6N | 78 | Cut | No | . | 1000 | 0 | 0 | 1 | 1 | . | . | . | . |
| 6N | 74 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |

## SECTION ID

CFTR: 3011 District: 3 County: Wilbarge
CTRL: 43 Section: 7 Job: 15
Hwy: US287 Location: MP 33 - MP 34

S1: 500 FT NW OF MP 34 - 1500 FT N OF MP 34
S2: 1/2 MI N OF MP 34 - 3000 FT N OF MP 34
S3: 3000 FT N OF MP 34 - 4000 FT N OF MP 34
S4: 500 FT N OF MP 34 -

| | Reference Markers | Lane | GPS Coordinates | |
|---|---|---|---|---|
| S1: | RM 312-0.1 to 312-0.3 | L1 | N 98.9594 | W 34.0489 |
| S2: | RM 312-0.5 to 312-0.7 | L1 | N 98.9653 | W 34.0506 |
| S3: | RM 312-0.7 to 312-0.9 | L1 | N 98.9686 | W 34.0561 |
| S4: | RM 312-0.1 to 312+0.1 | R1 | N 98.9575 | W 34.0475 |

## CONSTRUCTION

| | | | | |
|---|---|---|---|---|
| Constructed: | 1968.8 | Evap(const): | 0.100 | |
| HiTemp(const) | 76 | Swelling: | Low | |
| Thickness: | 8 | LoTemp(const): | 10.0 | |
| Subbase: | Cmnt Trt | | Year | Job |
| Coarse agg: | LS | 1st Ovly: | . | |
| Length: | 0.80 | 2nd Ovly: | . | |
| Avg Low Temp: | 6.5 | 3rd Ovly: | . | |
| Avg Yr Rainfall: | 24.5 | 4th Ovly: | . | |

## TRAFFIC

| YR | ADT | %TRUCK | ATHWL | %TAND | ESAL2 |
|---|---|---|---|---|---|
| 94 | 12400 | | | | |
| 93 | 10300 | | | | |
| 92 | 9500 | | | | |
| 91 | 9700 | | | | |
| 90 | 8100 | | | | |

**** No LOADING History In Database. ****

1985 ADT was 8700 with 0.7% growth.

## CONDITION SURVEY

| SEC | YR | POS | CURVE | OVR | LEN | ACP | PCP | MPO | SPO | CRKS | Rut | Blok | LC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1N | 99 | N/A | N/A | N | 1000 | 1 | 0 | 0 | 0 | 160 | . | 0.0 | . |
| 1N | 94 | Fill | N/A | N | 1000 | 1 | 0 | 0 | 0 | 26 | . | . | . |
| 1N | 87 | Fill | No | N | 1000 | 1 | 0 | 7 | 0 | 109 | . | . | . |
| 1N | 84 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1N | 82 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1N | 80 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1N | 78 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1N | 74 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2N | 99 | N/A | N/A | N | 1000 | 1 | 0 | 0 | 0 | 120 | . | 0.0 | . |
| 2N | 94 | Fill | N/A | N | 1000 | 1 | 0 | 0 | 0 | 179 | . | . | . |
| 2N | 87 | Trans | No | N | 1000 | 0 | 0 | 13 | 0 | 157 | . | . | . |
| 2N | 84 | Trans | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2N | 82 | Trans | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2N | 80 | Trans | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2N | 78 | Trans | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2N | 74 | Trans | No | . | 1000 | . | . | . | . | . | . | . | . |
| 3N | 99 | N/A | N/A | Y | 1000 | 0 | 1 | 0 | 0 | 9 | . | 0.0 | . |
| 3N | 94 | Cut | N/A | N | 1000 | 2 | 1 | 0 | 2 | 210 | . | . | . |
| 3N | 87 | Cut | No | N | 500 | 0 | 0 | 16 | 0 | 95 | . | . | . |
| 3N | 84 | Cut | No | . | 500 | . | . | . | . | . | . | . | . |
| 3N | 82 | Cut | No | . | 500 | . | . | . | . | . | . | . | . |
| 3N | 80 | Cut | No | . | 500 | . | . | . | . | . | . | . | . |
| 3N | 78 | Cut | No | . | 500 | . | . | . | . | . | . | . | . |
| 3N | 74 | Cut | No | . | 500 | . | . | . | . | . | . | . | . |
| 4S | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 73 | . | 0.0 | . |
| 4S | 94 | Grade | N/A | N | 1000 | 0 | 0 | 0 | 0 | 210 | . | . | . |
| 4S | 87 | Grade | No | N | 1000 | 1 | 0 | 3 | 0 | 179 | . | . | . |
| 4S | 84 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 4S | 82 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 4S | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 4S | 78 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 4S | 74 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |

## 1987 DEFLECTIONS (9 Kips)

| SEC | LOC | DF1 | DF2 | DF3 | DF4 | DF5 | DF6 | DF7 | OVR | CONF |
|---|---|---|---|---|---|---|---|---|---|---|
| 1N | EDG | 8.77 | 8.26 | 7.41 | 6.35 | 5.30 | 4.25 | 3.38 | N | C |
| 1N | INT | 5.75 | 5.43 | 4.86 | 4.19 | 3.55 | 2.87 | 2.31 | N | C |
| 2N | EDG | 5.33 | 4.84 | 4.20 | 3.54 | 2.90 | 2.31 | 1.86 | N | C |
| 2N | INT | 4.03 | 3.73 | 3.26 | 2.76 | 2.32 | 1.87 | 1.51 | N | C |
| 3N | EDG | 4.94 | 4.52 | 3.88 | 3.12 | 2.46 | 1.88 | 1.40 | N | C |
| 3N | INT | 3.89 | 3.59 | 3.14 | 2.64 | 2.19 | 1.72 | 1.36 | N | C |
| 4S | EDG | 7.56 | 6.99 | 6.12 | 5.12 | 4.11 | 3.15 | 2.36 | N | C |
| 4S | INT | 5.48 | 5.14 | 4.55 | 3.89 | 3.24 | 2.58 | 2.02 | N | C |

## SECTION ID

CFTR: 4005 District: 4 County: Carson
CTRL: 275 Section: 2 Job: 12
Hwy: IH40 Location: MP 85.2 - MP 93.1

S1: 1000 FT E TOWARD 93 - MP 92
S2: 1000 FT E OF 89 - MP 89
S3: 100 FT E OF 86 - MP 86

| | Reference Markers | | Lane | GPS Coordinates | |
|---|---|---|---|---|---|
| S1: | RM 88+0.5 | to 88+0.7 | R1 | N101.5303 | W 35.2208 |
| S2: | RM 89+0.2 | to 89+0.0 | L1 | N101.5175 | W 35.2214 |
| S3: | RM 86+0.2 | to 86+0.0 | L1 | | |

## CONSTRUCTION

| | | | |
|---|---|---|---|
| Constructed: | 1966.9 | Evap(const): | 0.084 |
| HiTemp(const) | 60 | Swelling: | Low |
| Thickness: | 8 | LoTemp(const): | 6.1 |
| Subbase: | Lime Trt | | Year / Job |
| Coarse agg: | SRG | 1st Ovly: | . |
| Length: | 7.90 | 2nd Ovly: | . |
| Avg Low Temp: | -2.2 | 3rd Ovly: | . |
| Avg Yr Rainfall: | 19.4 | 4th Ovly: | . |

## TRAFFIC

| YR | ADT | %TRUCK | ATHWL | %TAND | ESAL2 |
|---|---|---|---|---|---|
| 94 | 11000 | | | | |
| 93 | 11300 | | | | |
| 92 | 9500 | | | | |
| 91 | 9400 | | | | |
| 90 | 9300 | | | | |
| 86 | 8550 | 42 | 12300 | 80 | 2078439 |
| 85 | 8600 | 43 | 12700 | 70 | 2188025 |
| 84 | 8750 | 36 | 13400 | 70 | 1817179 |
| 83 | 7750 | 40 | 13400 | 80 | 1843295 |
| 82 | 7750 | 35 | 13200 | 70 | 1562132 |
| 81 | 7900 | 27 | 12900 | 60 | 1491098 |
| 80 | 8150 | 29 | 12900 | 70 | 1731654 |
| 79 | 7830 | 22 | 12800 | 60 | 1199488 |
| 78 | 7890 | 23 | 13800 | 40 | 1156716 |
| 77 | 7585 | 23 | 13750 | 40 | 1131930 |
| 76 | 6835 | 24 | 13600 | 40 | 948205 |
| 75 | 6590 | 27 | 13800 | 40 | 1203069 |
| 74 | 5970 | 22 | 13400 | 50 | 826321 |
| 73 | 6620 | 18 | 13350 | 50 | 739752 |
| 72 | 6120 | 15 | 13200 | 55 | 569992 |
| 71 | 5635 | 15 | 13050 | 60 | 536099 |
| 70 | 5230 | 14 | 12800 | 60 | 432874 |
| 69 | 5285 | 15 | 12900 | 60 | 456164 |
| 68 | 4855 | 13 | 12700 | 70 | 410338 |
| 67 | 4325 | 13 | 12400 | 70 | 331013 |

## 1987 DEFLECTIONS (9 Kips)

| SEC | LOC | DF1 | DF2 | DF3 | DF4 | DF5 | DF6 | DF7 | OVR | CONF |
|---|---|---|---|---|---|---|---|---|---|---|
| 1E | EDG | 9.11 | 8.37 | 7.25 | 5.96 | 4.85 | 3.79 | 2.97 | Y | C |
| 1E | INT | 5.95 | 5.27 | 4.57 | 3.79 | 3.13 | 2.49 | 2.01 | Y | C |
| 2E | EDG | 12.1 | 10.8 | 9.48 | 7.90 | 6.45 | 5.13 | 4.06 | Y | C |
| 2E | INT | 9.72 | 7.26 | 6.39 | 5.34 | 4.40 | 3.52 | 2.84 | Y | C |
| 1W | EDG | 11.2 | 9.77 | 8.54 | 7.08 | 5.74 | 4.52 | 3.55 | Y | C |
| 1W | INT | 7.12 | 5.93 | 5.22 | 4.39 | 3.66 | 2.95 | 2.39 | Y | C |
| 2W | EDG | 11.6 | 9.99 | 8.65 | 7.14 | 5.75 | 4.47 | 3.47 | Y | C |
| 2W | INT | 7.23 | 6.20 | 5.47 | 4.56 | 3.76 | 3.00 | 2.40 | Y | C |
| 3W | EDG | 13.1 | 11.4 | 9.97 | 8.28 | 6.73 | 5.34 | 4.22 | Y | C |
| 3W | INT | 7.87 | 6.23 | 5.56 | 4.74 | 3.96 | 3.24 | 2.66 | Y | C |

## CONDITION SURVEY

| SEC | YR | POS | CURVE | OVR | LEN | ACP | PCP | MPO | SPO | CRKS | Rut | Blok | LC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1E | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 1W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 1E | 96 | Grade | N/A | Y | 1000 | 8 | . | 8 | 0 | 185 | 0.0 | 0.0 | 0 |
| 1W | 96 | Grade | N/A | Y | 1000 | 0 | . | 0 | 0 | 41 | 0.0 | 0.0 | 0 |
| 1E | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 160 | . | . | . |
| 1W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 22 | . | . | . |
| 1E | 87 | Grade | No | N | 1000 | 0 | 0 | 34 | 1 | 368 | . | . | . |
| 1W | 87 | Grade | No | N | 1000 | 1 | 0 | 19 | 0 | 352 | . | . | . |
| 1E | 84 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 84 | Grade | No | . | 1000 | 0 | 1 | 1 | 0 | . | . | . | . |
| 1E | 82 | Grade | No | . | 1000 | 0 | 0 | 2 | 0 | . | . | . | . |
| 1W | 82 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1E | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1W | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1E | 78 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 78 | Grade | No | . | 1000 | 0 | 1 | 1 | 0 | . | . | . | . |
| 1E | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2E | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 2 | . | 0.0 | . |
| 2W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 8 | . | 0.0 | . |
| 2E | 96 | Grade | N/A | Y | 1000 | 1 | . | 0 | 0 | 218 | 0.0 | 0.0 | 0 |
| 2W | 96 | Grade | N/A | Y | 1000 | 1 | . | 1 | 0 | 104 | 0.0 | 0.0 | 0 |
| 2E | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 171 | . | . | . |
| 2W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 64 | . | . | . |
| 2E | 87 | Fill | No | N | 1000 | 0 | 0 | 24 | 0 | 400 | . | . | . |
| 2W | 87 | Grade | No | N | 1000 | 2 | 2 | 228 | 0 | 368 | . | . | . |
| 2E | 84 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 84 | Grade | No | . | 1000 | 0 | 2 | 0 | 0 | . | . | . | . |
| 2E | 82 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 82 | Grade | No | . | 1000 | 0 | 2 | 12 | 0 | . | . | . | . |
| 2E | 80 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2W | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2E | 78 | Fill | No | . | 1000 | 0 | 0 | 2 | 0 | . | . | . | . |
| 2W | 78 | Grade | No | . | 1000 | 0 | 0 | 8 | 0 | . | . | . | . |
| 2E | 74 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 74 | Grade | No | . | 1000 | 0 | 0 | 5 | 0 | . | . | . | . |
| 3W | 99 | N/A | N/A | Y | 1000 | 2 | 0 | 0 | 0 | 12 | . | 0.0 | . |
| 3W | 96 | Grade | N/A | Y | 1000 | 5 | . | 3 | 0 | 112 | 0.0 | 0.0 | 0 |
| 3W | 94 | Grade | N/A | Y | 1000 | 1 | 0 | . | . | 72 | . | . | . |
| 3W | 87 | Grade | No | N | 1000 | 3 | 2 | 46 | 0 | 384 | . | . | . |
| 3W | 84 | Grade | No | . | 1000 | 0 | 2 | 0 | 0 | . | . | . | . |
| 3W | 82 | Grade | No | . | 1000 | 0 | 5 | 18 | 2 | . | . | . | . |
| 3W | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 3W | 78 | Grade | No | . | 1000 | 0 | 2 | 6 | 0 | . | . | . | . |
| 3W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |

## SECTION ID

CFTR: 4011 District: 4 County: Potter
CTRL: 90 Section: 5 Job: 44
Hwy: IH40 Location: MP 54.8 - MP 61.8

S1: 1000 FT E OF 61 - MP 61
S2: 1000 FT EASTWARD - MIDWAY BETWEEN 61 AND 60
S3: 1000 FT E OF 56 - MP 56
S4: 60.0 - 60.2

| | Reference Markers | | | Lane | GPS Coordinates | |
|---|---|---|---|---|---|---|
| S1: | RM 60+0.0 | to | 60+0.2 | R1 | N102.0189 | W 35.1903 |
| S2: | RM 60+0.5 | to | 60+0.7 | R1 | N102.0097 | W 35.1900 |
| S3: | RM 56+0.2 | to | 56+0.0 | L1 | N102.0864 | W 35.1917 |

## TRAFFIC

| YR | ADT | %TRUCK | ATHWL | %TAND | ESAL2 |
|---|---|---|---|---|---|
| 94 | 11600 | | | | |
| 93 | 11500 | | | | |
| 92 | 10700 | | | | |
| 91 | . | | | | |
| 90 | 10400 | | | | |
| 86 | 9600 | 38 | 12300 | 80 | 2027427 |
| 85 | 9700 | 36 | 12700 | 60 | 1977491 |
| 84 | 10000 | 33 | 13500 | 70 | 1861288 |
| 83 | 9400 | 33 | 13400 | 70 | 1763228 |
| 82 | 9000 | 33 | 13400 | 70 | 1695402 |
| 81 | 8800 | 27 | 12900 | 60 | 1657723 |
| 80 | 7600 | 24 | 12800 | 60 | 1303392 |
| 79 | 8190 | 22 | 12800 | 60 | 1184545 |
| 78 | 8570 | 23 | 13800 | 40 | 1172098 |
| 77 | 8300 | 22 | 13800 | 40 | 1121915 |
| 76 | 7050 | 21 | 13500 | 40 | 910074 |
| 75 | 7280 | 25 | 13800 | 40 | 1147658 |
| 74 | 6890 | 22 | 13600 | 40 | 967277 |
| 73 | 7280 | 18 | 13500 | 50 | 825266 |
| 72 | 6900 | 18 | 13400 | 40 | 750255 |
| 71 | 6420 | 15 | 13200 | 50 | 556996 |
| 70 | 6120 | 15 | 13100 | 50 | 538279 |
| 69 | 6160 | 15 | 13100 | 50 | 526574 |
| 68 | 5910 | 15 | 13100 | 60 | 570713 |

## 1987 DEFLECTIONS (9 Kips)

| SEC | LOC | DF1 | DF2 | DF3 | DF4 | DF5 | DF6 | DF7 | OVR | CONF |
|---|---|---|---|---|---|---|---|---|---|---|
| 1E | EDG | 6.92 | 6.55 | 5.85 | 5.03 | 4.24 | 3.48 | 2.84 | N | C |
| 1E | INT | 6.33 | 6.03 | 5.42 | 4.72 | 4.03 | 3.36 | 2.78 | N | C |
| 2E | EDG | 6.50 | 6.03 | 5.19 | 4.27 | 3.47 | 2.76 | 2.17 | N | C |
| 2E | INT | 5.73 | 5.33 | 4.67 | 3.91 | 3.22 | 2.57 | 2.06 | N | C |
| 1W | EDG | 6.11 | 5.70 | 4.79 | 3.86 | 3.07 | 2.38 | 1.91 | N | C |
| 1W | INT | 4.55 | 4.18 | 3.55 | 2.93 | 2.42 | 1.95 | 1.60 | N | C |
| 2W | EDG | 7.33 | 6.85 | 5.83 | 4.75 | 3.79 | 2.97 | 2.34 | N | C |
| 2W | INT | 5.98 | 5.65 | 4.97 | 4.20 | 3.52 | 2.83 | 2.30 | N | C |
| 3W | EDG | 5.43 | 5.09 | 4.43 | 3.69 | 3.03 | 2.45 | 1.98 | N | C |
| 3W | INT | 4.58 | 4.24 | 3.70 | 3.08 | 2.58 | 2.09 | 1.74 | N | C |

## CONSTRUCTION

| | | | | |
|---|---|---|---|---|
| Constructed: | 1972.5 | Evap(const): | 0.145 | |
| HiTemp(const) | 84 | Swelling: | Low | |
| Thickness: | 8 | LoTemp(const): | -0.1 | |
| Subbase: | Cmnt Trt | | Year | Job |
| Coarse agg: | SRG | 1st Ovly: | . | |
| Length: | 7.00 | 2nd Ovly: | . | |
| Avg Low Temp: | -2.2 | 3rd Ovly: | . | |
| Avg Yr Rainfall: | 19.4 | 4th Ovly: | . | |

## CONDITION SURVEY

| SEC | YR | POS | CURVE | OVR | LEN | ACP | PCP | MPO | SPO | CRKS | Rut | Blok | LC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1E | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 39 | . | 0.0 | . |
| 1W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 13 | . | 0.0 | . |
| 1E | 96 | Grade | N/A | Y | 1000 | 1 | . | 0 | 0 | 19 | 0.0 | 0.0 | 0 |
| 1W | 96 | Grade | N/A | Y | 1000 | 0 | . | 0 | 0 | 7 | 0.0 | 0.0 | 0 |
| 1E | 94 | Grade | N/A | Y | 1000 | 2 | 0 | . | . | 6 | . | . | . |
| 1W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 1E | 87 | Grade | No | N | 1000 | 0 | 1 | 11 | 0 | 250 | . | . | . |
| 1W | 87 | Grade | No | N | 1000 | 0 | 0 | 3 | 0 | 416 | . | . | . |
| 1E | 84 | Grade | No | . | 1000 | 0 | 2 | 0 | 0 | . | . | . | . |
| 1W | 84 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1E | 82 | Grade | No | . | 1000 | 0 | 1 | 1 | 0 | . | . | . | . |
| 1W | 82 | Grade | No | . | 1000 | 0 | 0 | 1 | 0 | . | . | . | . |
| 1E | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1W | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1E | 78 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 78 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1E | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2E | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 14 | . | 0.0 | . |
| 2W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 2 | 0 | 56 | . | 0.0 | . |
| 2E | 96 | Fill | N/A | Y | 1000 | 0 | . | 0 | 0 | 6 | 0.0 | 0.0 | 0 |
| 2W | 96 | Fill | N/A | Y | 1000 | 0 | . | 0 | 0 | 27 | 0.0 | 0.0 | 0 |
| 2E | 94 | Fill | N/A | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 2W | 94 | Fill | N/A | Y | 1000 | 0 | 0 | . | . | 7 | . | . | . |
| 2E | 87 | Fill | No | N | 1000 | 0 | 0 | 11 | 0 | 304 | . | . | . |
| 2W | 87 | Fill | No | N | 1000 | 0 | 6 | 42 | 1 | 304 | . | . | . |
| 2E | 84 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 84 | Fill | No | . | 1000 | 0 | 3 | 0 | 0 | . | . | . | . |
| 2E | 82 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 82 | Fill | No | . | 1000 | 0 | 1 | 6 | 0 | . | . | . | . |
| 2E | 80 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2W | 80 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2E | 78 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 78 | Fill | No | . | 1000 | 0 | 0 | 1 | 0 | . | . | . | . |
| 2E | 74 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 74 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 36 | . | 0.0 | . |
| 3W | 96 | Grade | N/A | Y | 1000 | 0 | . | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 3W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 3W | 87 | Grade | No | N | 1000 | 2 | 0 | 6 | 0 | 336 | . | . | . |
| 3W | 84 | Grade | No | . | 1000 | 0 | 0 | 0 | 1 | . | . | . | . |
| 3W | 82 | Grade | No | . | 1000 | 0 | 0 | 2 | 0 | . | . | . | . |
| 3W | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 3W | 78 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4E | 96 | Grade | N/A | Y | 1000 | 1 | . | 0 | 0 | 28 | 0.0 | 0.0 | 0 |

## SECTION ID

CFTR: 4005 District: 4 County: Carson
CTRL: 275 Section: 2 Job: 12
Hwy: IH40 Location: MP 85.2 - MP 93.1

S1: 1000 FT E TOWARD 93 - MP 92
S2: 1000 FT E OF 89 - MP 89
S3: 100 FT E OF 86 - MP 86

| | Reference Markers | | Lane | GPS Coordinates | |
|---|---|---|---|---|---|
| S1: | RM 88+0.5 | to 88+0.7 | R1 | N101.5303 | W 35.2208 |
| S2: | RM 89+0.2 | to 89+0.0 | L1 | N101.5175 | W 35.2214 |
| S3: | RM 86+0.2 | to 86+0.0 | L1 | | |

## CONSTRUCTION

| | | | |
|---|---|---|---|
| Constructed: | 1966.9 | Evap(const): | 0.084 |
| HiTemp(const) | 60 | Swelling: | Low |
| Thickness: | 8 | LoTemp(const): | 6.1 |
| Subbase: | Lime Trt | | Year Job |
| Coarse agg: | SRG | 1st Ovly: | . |
| Length: | 7.90 | 2nd Ovly: | . |
| Avg Low Temp: | -2.2 | 3rd Ovly: | . |
| Avg Yr Rainfall: | 19.4 | 4th Ovly: | . |

## CONDITION SURVEY

| SEC | YR | POS | CURVE | OVR | LEN | ACP | PCP | MPO | SPO | CRKS | Rut | Blok | LC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1E | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 1W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 1E | 96 | Grade | N/A | Y | 1000 | 8 | . | 8 | 0 | 185 | 0.0 | 0.0 | 0 |
| 1W | 96 | Grade | N/A | Y | 1000 | 0 | . | 0 | 0 | 41 | 0.0 | 0.0 | 0 |
| 1E | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 160 | . | . | . |
| 1W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 22 | . | . | . |
| 1E | 87 | Grade | No | N | 1000 | 0 | 0 | 34 | 1 | 368 | . | . | . |
| 1W | 87 | Grade | No | N | 1000 | 1 | 0 | 19 | 0 | 352 | . | . | . |
| 1E | 84 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 84 | Grade | No | . | 1000 | 0 | 1 | 1 | 0 | . | . | . | . |
| 1E | 82 | Grade | No | . | 1000 | 0 | 0 | 2 | 0 | . | . | . | . |
| 1W | 82 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1E | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1W | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1E | 78 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 78 | Grade | No | . | 1000 | 0 | 1 | 1 | 0 | . | . | . | . |
| 1E | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2E | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 2 | . | 0.0 | . |
| 2W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 8 | . | 0.0 | . |
| 2E | 96 | Grade | N/A | Y | 1000 | 1 | . | 0 | 0 | 218 | 0.0 | 0.0 | 0 |
| 2W | 96 | Grade | N/A | Y | 1000 | 1 | . | 1 | 0 | 104 | 0.0 | 0.0 | 0 |
| 2E | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 171 | . | . | . |
| 2W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 64 | . | . | . |
| 2E | 87 | Fill | No | N | 1000 | 0 | 0 | 24 | 0 | 400 | . | . | . |
| 2W | 87 | Grade | No | N | 1000 | 2 | 2 | 228 | 0 | 368 | . | . | . |
| 2E | 84 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 84 | Grade | No | . | 1000 | 0 | 2 | 0 | 0 | . | . | . | . |
| 2E | 82 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 82 | Grade | No | . | 1000 | 0 | 2 | 12 | 0 | . | . | . | . |
| 2E | 80 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2W | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2E | 78 | Fill | No | . | 1000 | 0 | 0 | 2 | 0 | . | . | . | . |
| 2W | 78 | Grade | No | . | 1000 | 0 | 0 | 8 | 0 | . | . | . | . |
| 2E | 74 | Fill | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 74 | Grade | No | . | 1000 | 0 | 0 | 5 | 0 | . | . | . | . |
| 3W | 99 | N/A | N/A | Y | 1000 | 2 | 0 | 0 | 0 | 12 | . | 0.0 | . |
| 3W | 96 | Grade | N/A | Y | 1000 | 5 | . | 3 | 0 | 112 | 0.0 | 0.0 | 0 |
| 3W | 94 | Grade | N/A | Y | 1000 | 1 | 0 | . | . | 72 | . | . | . |
| 3W | 87 | Grade | No | N | 1000 | 3 | 2 | 46 | 0 | 384 | . | . | . |
| 3W | 84 | Grade | No | . | 1000 | 0 | 2 | 0 | 0 | . | . | . | . |
| 3W | 82 | Grade | No | . | 1000 | 0 | 5 | 18 | 2 | . | . | . | . |
| 3W | 80 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 3W | 78 | Grade | No | . | 1000 | 0 | 2 | 6 | 0 | . | . | . | . |
| 3W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |

## TRAFFIC

| YR | ADT | %TRUCK | ATHWL | %TAND | ESAL2 |
|---|---|---|---|---|---|
| 94 | 11000 | | | | |
| 93 | 11300 | | | | |
| 92 | 9500 | | | | |
| 91 | 9400 | | | | |
| 90 | 9300 | | | | |
| 86 | 8550 | 42 | 12300 | 80 | 2078439 |
| 85 | 8600 | 43 | 12700 | 70 | 2188025 |
| 84 | 8750 | 36 | 13400 | 70 | 1817179 |
| 83 | 7750 | 40 | 13400 | 80 | 1843295 |
| 82 | 7750 | 35 | 13200 | 70 | 1562132 |
| 81 | 7900 | 27 | 12900 | 60 | 1491098 |
| 80 | 8150 | 29 | 12900 | 70 | 1731654 |
| 79 | 7830 | 22 | 12800 | 60 | 1199488 |
| 78 | 7890 | 23 | 13800 | 40 | 1156716 |
| 77 | 7585 | 23 | 13750 | 40 | 1131930 |
| 76 | 6835 | 24 | 13600 | 40 | 948205 |
| 75 | 6590 | 27 | 13800 | 40 | 1203069 |
| 74 | 5970 | 22 | 13400 | 50 | 826321 |
| 73 | 6620 | 18 | 13350 | 50 | 739752 |
| 72 | 6120 | 15 | 13200 | 55 | 569992 |
| 71 | 5635 | 15 | 13050 | 60 | 536099 |
| 70 | 5230 | 14 | 12800 | 60 | 432874 |
| 69 | 5285 | 15 | 12900 | 60 | 456164 |
| 68 | 4855 | 13 | 12700 | 70 | 410338 |
| 67 | 4325 | 13 | 12400 | 70 | 331013 |

## 1987 DEFLECTIONS (9 Kips)

| SEC | LOC | DF1 | DF2 | DF3 | DF4 | DF5 | DF6 | DF7 | OVR | CONF |
|---|---|---|---|---|---|---|---|---|---|---|
| 1E | EDG | 9.11 | 8.37 | 7.25 | 5.96 | 4.85 | 3.79 | 2.97 | Y | C |
| 1E | INT | 5.95 | 5.27 | 4.57 | 3.79 | 3.13 | 2.49 | 2.01 | Y | C |
| 2E | EDG | 12.1 | 10.8 | 9.48 | 7.90 | 6.45 | 5.13 | 4.06 | Y | C |
| 2E | INT | 9.72 | 7.26 | 6.39 | 5.34 | 4.40 | 3.52 | 2.84 | Y | C |
| 1W | EDG | 11.2 | 9.77 | 8.54 | 7.08 | 5.74 | 4.52 | 3.55 | Y | C |
| 1W | INT | 7.12 | 5.93 | 5.22 | 4.39 | 3.66 | 2.95 | 2.39 | Y | C |
| 2W | EDG | 11.6 | 9.99 | 8.65 | 7.14 | 5.75 | 4.47 | 3.47 | Y | C |
| 2W | INT | 7.23 | 6.20 | 5.47 | 4.56 | 3.76 | 3.00 | 2.40 | Y | C |
| 3W | EDG | 13.1 | 11.4 | 9.97 | 8.28 | 6.73 | 5.34 | 4.22 | Y | C |
| 3W | INT | 7.87 | 6.23 | 5.56 | 4.74 | 3.96 | 3.24 | 2.66 | Y | C |

## SECTION ID

CFTR: 20009 District: 20 County: Jefferson
CTRL: 739 Section: 2 Job: 9
Hwy: IH10 Location: MP 831.4 - MP 839.2

S1: MP 838 - 0.2 MI W OF MP 838
S2: 0.7 MI W OF MP 838 - 0.9 MI W OF MP 838
S3: 0.2 MI W OF MP 837 - 0.3 MI W OF MP 837
S4: MP 835 - 834.8
S5: 833.9 - 833.7

## CONSTRUCTION

| | | | | |
|---|---|---|---|---|
| Constructed: | 1964.9 | Evap(const): | 0.052 | |
| HiTemp(const) | 67 | Swelling: | Low | |
| Thickness: | 8 | LoTemp(const): | 23.0 | |
| Subbase: | Cmnt Trt | | Year | Job |
| Coarse agg: | LS | 1st Ovly: | 81.42 | 78 |
| Length: | 7.80 | 2nd Ovly: | 82.25 | 82 |
| Avg Low Temp: | 21.7 | 3rd Ovly: | . | |
| Avg Yr Rainfall: | 54.3 | 4th Ovly: | . | |

## TRAFFIC

| YR | ADT | %TRUCK | ATHWL | %TAND | ESAL2 |
|---|---|---|---|---|---|
| 94 | 30000 | | | | |
| 93 | 29000 | | | | |
| 92 | . | | | | |
| 91 | 27000 | | | | |
| 90 | 26000 | | | | |
| 86 | 23000 | 25 | 13000 | 40 | 2829632 |
| 85 | 22000 | 30 | 15200 | 90 | 3216091 |
| 84 | 23000 | 29 | 13200 | 70 | 3063139 |
| 83 | 22500 | 30 | 13250 | 70 | 3151808 |
| 82 | 18000 | 31 | 13100 | 70 | 2602419 |
| 81 | 19500 | 32 | 13300 | 90 | 3272191 |
| 80 | 17650 | 30 | 13200 | 90 | 2795707 |
| 79 | 18650 | 24 | 13000 | 80 | 2204837 |
| 78 | 18310 | 24 | 13200 | 60 | 1971165 |
| 77 | 16675 | 25 | 13200 | 60 | 1853859 |
| 76 | 15900 | 26 | 13200 | 60 | 1841093 |
| 75 | 14910 | 25 | 13100 | 60 | 1676555 |
| 74 | 14860 | 25 | 13100 | 60 | 1687472 |
| 73 | 14410 | 16 | 12900 | 60 | 1067652 |
| 72 | 13750 | 21 | 13000 | 60 | 1334602 |
| 71 | 12970 | 16 | 12800 | 60 | 866791 |
| 70 | 11335 | 15 | 12700 | 60 | 753855 |
| 69 | 12365 | 14 | 12750 | 60 | 752002 |
| 68 | 11400 | 14 | 12600 | 60 | 688826 |
| 67 | 10705 | 15 | 12600 | 60 | 684130 |
| 66 | 9500 | 16 | 12600 | 60 | 661507 |
| 65 | 8980 | 16 | 12500 | 60 | 587278 |
| 64 | 7410 | 21 | 12600 | 50 | 592808 |

## CONDITION SURVEY

| SEC | YR | POS | CURVE | OVR | LEN | ACP | PCP | MPO | SPO | CRKS | Rut | Blok | LC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1W | 95 | Grade | N/A | Y | 1000 | 0 | . | 0 | 0 | 3 | 0.0 | 0.0 | 0 |
| 1W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 1 | . | . | . |
| 1W | 87 | Grade | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 1W | 84 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1W | 82 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 80 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 78 | Grade | No | . | 1000 | 0 | 14 | 6 | 1 | . | . | . | . |
| 1W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 2 | . | . | . | . |
| 2W | 95 | Grade | N/A | Y | 1000 | 1 | . | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 2W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 2W | 87 | Grade | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 2W | 84 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2W | 82 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 80 | Grade | No | . | 1000 | 1 | 0 | 1 | 1 | . | . | . | . |
| 2W | 78 | Grade | No | . | 1000 | 0 | 0 | 1 | 0 | . | . | . | . |
| 2W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 95 | Fill | N/A | Y | 1000 | 0 | . | 5 | 0 | 0 | 0.0 | 0.0 | 0 |
| 3W | 94 | Fill | N/A | Y | 600 | 0 | 0 | . | . | 1 | . | . | . |
| 3W | 87 | Fill | No | Y | 500 | 0 | 0 | . | . | 2 | . | . | . |
| 3W | 84 | Fill | No | . | 500 | . | . | . | . | . | . | . | . |
| 3W | 82 | Fill | No | . | 500 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 80 | Fill | No | . | 500 | 0 | 0 | 1 | 1 | . | . | . | . |
| 3W | 78 | Fill | No | . | 500 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 74 | Fill | No | . | 500 | 0 | 1 | 0 | 1 | . | . | . | . |
| 4W | 95 | Grade | N/A | Y | 1000 | 39 | . | 33 | 0 | 3 | 0.0 | 0.0 | 0 |
| 4W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 6 | . | . | . |
| 4W | 87 | Grade | No | Y | 1000 | 0 | 0 | . | . | 2 | . | . | . |
| 4W | 84 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 4W | 82 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4W | 80 | Grade | No | . | 1000 | 0 | 2 | 0 | 0 | . | . | . | . |
| 4W | 78 | Grade | No | . | 1000 | 0 | 2 | 0 | 0 | . | . | . | . |
| 4W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5W | 95 | Grade | N/A | Y | 1000 | 11 | . | 16 | 0 | 0 | 0.0 | 0.0 | 0 |
| 5W | 94 | Grade | N/A | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 5W | 87 | Grade | No | Y | 1000 | 0 | 0 | . | . | 1 | . | . | . |
| 5W | 84 | Grade | No | . | 1000 | . | . | . | . | . | . | . | . |
| 5W | 82 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5W | 80 | Grade | No | . | 1000 | 0 | 1 | 1 | 2 | . | . | . | . |
| 5W | 78 | Grade | No | . | 1000 | 0 | 1 | 1 | 0 | . | . | . | . |
| 5W | 74 | Grade | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |

## 1987 DEFLECTIONS (9 Kips)

| SEC | LOC | DF1 | DF2 | DF3 | DF4 | DF5 | DF6 | DF7 | OVR | CONF |
|---|---|---|---|---|---|---|---|---|---|---|
| 1W | EDG | 4.30 | 2.50 | 2.18 | 1.85 | 1.55 | 1.33 | 1.28 | Y | C |
| 1W | INT | 3.72 | 2.23 | 2.07 | 1.79 | 1.55 | 1.31 | 1.20 | Y | C |
| 2W | EDG | 7.28 | 4.33 | 3.87 | 3.21 | 2.66 | 2.14 | 1.92 | Y | C |
| 2W | INT | 5.39 | 2.74 | 2.51 | 2.14 | 1.83 | 1.51 | 1.40 | Y | C |
| 3W | EDG | 6.14 | 3.49 | 3.14 | 2.61 | 2.20 | 1.79 | 1.60 | Y | C |
| 3W | INT | 6.05 | 3.25 | 2.91 | 2.39 | 2.04 | 1.67 | 1.53 | Y | C |
| 4W | EDG | 5.91 | 3.56 | 3.27 | 2.81 | 2.48 | 2.10 | 1.94 | Y | C |
| 4W | INT | 4.37 | 2.83 | 2.69 | 2.37 | 2.14 | 1.82 | 1.70 | Y | C |
| 5W | EDG | 5.82 | 3.28 | 3.09 | 2.67 | 2.37 | 2.02 | 1.84 | Y | C |
| 5W | INT | 5.63 | 2.89 | 2.74 | 2.38 | 2.12 | 1.80 | 1.68 | Y | C |
| 5W | EDG | 5.08 | 2.53 | 2.42 | 2.18 | 1.97 | 1.71 | 1.62 | Y | C |

## SECTION ID

| | | |
|---|---|---|
| CFTR: 24010 | District: 24 | County: JeffDavis |
| CTRL: 3 | Section: 4 | Job: 22 |
| Hwy: IH10 | Location: MP 179.2 - MP 186.2 | |

S1: 185 MILE - 90 FT - 185 MILE - 1090 FT
S2: MP 183.7 - MP 183.5
S3: 182.6 MP - 182.4 MP
S4: 181.0 MP - 180.8 MP
S5: MP 186.2 - MP 186.4
S6: MP 180.8 - MP 180.6

| | Reference Markers | Lane | GPS Coordinates | |
|---|---|---|---|---|
| S1: | RM 185+0.0 to 185-0.2 | L2 | N104.0861 | W 31.0833 |
| S2: | RM 183+0.7 to 183+0.5 | L2 | N104.1081 | W 31.0819 |
| S3: | RM 182+0.6 to 182+0.4 | L2 | N104.1231 | W 31.0744 |
| S4: | RM 181+0.0 to 180+0.8 | L2 | N104.1478 | W 31.0644 |
| S5: | RM 186+0.2 to 186+0.4 | R2 | N104.0650 | W 31.0839 |
| S6: | RM 180+0.8 to 180+0.6 | L2 | N104.1514 | W 31.0628 |

## TRAFFIC

| YR | ADT | %TRUCK | ATHWL | %TAND | ESAL2 |
|---|---|---|---|---|---|
| 94 | . | | | | |
| 93 | . | | | | |
| 92 | . | | | | |
| 91 | . | | | | |
| 90 | . | | | | |
| 86 | 7900 | 51 | 12500 | 90 | 2520249 |
| 85 | 7800 | 51 | 12800 | 70 | 2477066 |
| 84 | 7400 | 47 | 13500 | 80 | 2091165 |
| 83 | 6400 | 41 | 13200 | 80 | 1567058 |
| 82 | 6100 | 43 | 13100 | 70 | 1487905 |
| 81 | 5300 | 47 | 13000 | 70 | 1873537 |
| 80 | 5500 | 40 | 12900 | 60 | 1590938 |
| 79 | 5690 | 37 | 12900 | 60 | 1548366 |
| 78 | 5480 | 38 | 14000 | 40 | 1443138 |
| 77 | 5350 | 34 | 13800 | 40 | 1253973 |
| 76 | 4790 | 37 | 13800 | 40 | 1190054 |
| 75 | 4380 | 39 | 13700 | 40 | 1146249 |
| 74 | 4305 | 36 | 13600 | 50 | 1042838 |
| 73 | 4840 | 33 | 13600 | 40 | 1038086 |
| 72 | 4350 | 33 | 13500 | 50 | 943929 |
| 71 | 3810 | 32 | 13400 | 50 | 794224 |
| 70 | 3560 | 29 | 13200 | 60 | 675689 |

## 1987 DEFLECTIONS (9 Kips)

| SEC | LOC | DF1 | DF2 | DF3 | DF4 | DF5 | DF6 | DF7 | OVR | CONF |
|---|---|---|---|---|---|---|---|---|---|---|
| 5E | EDG | 7.14 | 3.12 | 1.29 | 0.79 | 0.59 | 0.47 | 0.40 | Y | C |
| 5E | INT | 9.79 | 4.98 | 2.37 | 1.40 | 0.98 | 0.73 | 0.59 | Y | C |
| 1W | EDG | 2.94 | 2.44 | 2.10 | 1.75 | 1.42 | 1.15 | 0.92 | Y | C |
| 1W | INT | 2.46 | 1.92 | 1.68 | 1.42 | 1.22 | 1.00 | 0.83 | Y | C |
| 2W | EDG | 1.76 | 1.53 | 1.18 | 0.89 | 0.64 | 0.51 | 0.34 | Y | C |
| 2W | INT | 2.10 | 1.77 | 1.41 | 1.08 | 0.84 | 0.65 | 0.49 | Y | C |
| 3W | EDG | 2.49 | 2.39 | 1.82 | 1.45 | 1.19 | 0.99 | 0.80 | Y | C |
| 3W | INT | 2.25 | 1.93 | 1.55 | 1.20 | 0.96 | 0.78 | 0.62 | Y | C |
| 4W | EDG | 2.30 | 1.90 | 1.50 | 1.13 | 0.86 | 0.62 | 0.46 | Y | C |
| 4W | INT | 2.85 | 2.53 | 2.16 | 1.77 | 1.40 | 1.10 | 0.84 | Y | C |
| 6W | EDG | 2.52 | 2.33 | 1.96 | 1.57 | 1.23 | 0.97 | 0.73 | Y | C |
| 6W | INT | 2.32 | 2.18 | 1.77 | 1.37 | 1.03 | 0.83 | 0.63 | Y | C |

## CONSTRUCTION

| | | | | |
|---|---|---|---|---|
| Constructed: | 1969.6 | Evap(const): | 0.173 | |
| HiTemp(const) | 95 | Swelling: | Low | |
| Thickness: | 8 | LoTemp(const): | 16.0 | |
| Subbase: | Lime Trt | | Year | Job |
| Coarse agg: | LS | 1st Ovly: | 87.08 | 32 |
| Length: | 7.00 | 2nd Ovly: | 86.84 | 33 |
| Avg Low Temp: | 12.7 | 3rd Ovly: | . | |
| Avg Yr Rainfall: | 14.1 | 4th Ovly: | . | |

## CONDITION SURVEY

| SEC | YR | POS | CURVE | OVR | LEN | ACP | PCP | MPO | SPO | CRKS | Rut | Blok | LC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 1W | 94 | Cut | N/A | Y | 1000 | 0 | . | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 1W | 87 | Cut | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 1W | 84 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 82 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 80 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |
| 1W | 78 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 1W | 74 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 2W | 94 | Cut | N/A | Y | 1000 | 0 | . | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 2W | 87 | Cut | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 2W | 84 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 82 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 80 | Cut | No | . | 1000 | . | . | . | . | . | . | . | . |
| 2W | 78 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 2W | 74 | Cut | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 3W | 94 | N/A | N/A | Y | 1000 | 0 | . | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 3W | 87 | Grade | Yes | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 3W | 84 | Grade | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 82 | Grade | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 80 | Grade | Yes | . | 1000 | . | . | . | . | . | . | . | . |
| 3W | 78 | Grade | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 3W | 74 | Grade | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 4W | 94 | Trans | N/A | Y | 1000 | 0 | . | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 4W | 87 | Trans | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 4W | 84 | Trans | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4W | 82 | Trans | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4W | 80 | Trans | No | . | 1000 | . | . | . | . | . | . | . | . |
| 4W | 78 | Trans | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 4W | 74 | Trans | No | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 5E | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 5E | 94 | Trans | N/A | Y | 1000 | 0 | . | 0 | 0 | 7 | 0.0 | 0.0 | 0 |
| 5E | 87 | Fill | No | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 5E | 84 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 5E | 82 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 5E | 80 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 5E | 78 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 5E | 74 | Fill | No | . | 1000 | . | . | . | . | . | . | . | . |
| 6W | 99 | N/A | N/A | Y | 1000 | 0 | 0 | 0 | 0 | 0 | . | 0.0 | . |
| 6W | 94 | Fill | N/A | Y | 1000 | 0 | . | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 6W | 87 | Fill | Yes | Y | 1000 | 0 | 0 | . | . | 0 | . | . | . |
| 6W | 84 | Fill | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 6W | 82 | Fill | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |
| 6W | 80 | Fill | Yes | . | 1000 | . | . | . | . | . | . | . | . |
| 6W | 78 | Fill | Yes | . | 1000 | 0 | 0 | 1 | 0 | . | . | . | . |
| 6W | 74 | Fill | Yes | . | 1000 | 0 | 0 | 0 | 0 | . | . | . | . |

# Appendix B.
# SAS One Page Summary Report
# Program Source Code

```
/******************************************************************/
/*         WRITTEN BY:                                            */
/*              JESSICA V. SALINAS  &  TERRY DOSSEY               */
/*                        MAY 1991                                */
/*                                                                */
/*                                                                */
/*   THE PURPOSE OF THIS PROGRAM IS TO PROVIDE A WORKSHEET        */
/*   THAT CONTAINS DATA OBTAINED FROM THE CENTER FOR              */
/*   TRANSPORTATION RESEARCH OVER THE LAST FOURTEEN YEARS.        */
/*   "A CONTINUOUSLY REINFORCED CONCRETE PAVEMENT DATABASE"       */
/*   BY T. DOSSEY AND A.J. WEISSMANN, GIVES A CLEAR               */
/*   UNDERSTANDING OF THE DATABASE USED.                          */
/*   THIS WORKSHEET WILL BE USED BY DIFFERENT GRADUATE            */
/*   STUDENTS AND OTHERS WHO ARE INTERESTED IN THIS INFORMATION. */
/*                                                                */
/******************************************************************/


OPTIONS OBS=MAX pAGESIZE=60 LINESIZE=132;libname rpdb
'd:\rpdb\crcp';run;
/**** KEEP ONLY DEFLECTIONS FROM EDGE AND INTERIOR STATIONS *******/
DATA A  ; SET rpdb.FWD;IF OVR="Y" OR OVR="N" AND STATION>3;
/*PROC PRINT; VAR CFTR DIR SECT SS STATION OVR CONF LBS DF1-DF7;*/

/**** INTERPOLATE DEFLECTIONS FOR 9000 LB LOAD *********************/
DATA A  ; SET A  ; BY CFTR DIR SECT SS STATION;
KEEP DF1-DF7 CFTR DIR SECT SS OVR CONF STATION;
L1=LBS-LAG(LBS); L2=9000-LAG(LBS);
LDF1=LAG(DF1); LDF2=LAG(DF2); LDF3=LAG(DF3); LDF4=LAG(DF4);
LDF5=LAG(DF5); LDF6=LAG(DF6); LDF7=LAG(DF7);
IF LBS>9000 AND LAG(LBS)<9000 AND NOT FIRST.STATION THEN DO;
/*PUT CFTR DIR SECT SS STATION OVR CONF LBS DF1;*/
LR=L2/L1;
DF1=LDF1+LR*(DF1-LDF1);
DF2=LDF2+LR*(DF2-LDF2);
DF3=LDF3+LR*(DF3-LDF3);
DF4=LDF4+LR*(DF4-LDF4);
DF5=LDF5+LR*(DF5-LDF5);
DF6=LDF6+LR*(DF6-LDF6);
DF7=LDF7+LR*(DF7-LDF7);
OUTPUT; END;
IF LBS=9000 THEN OUTPUT;
OPTIONS OBS =MAX;
PROC SORT; BY CFTR DIR SECT STATION;
TITLE "FWD AFTER ALL PROCESSING";
/*PROC PRINT; VAR CFTR DIR SECT SS STATION OVR CONF DF1-DF7;*/
PROC MEANS NOPRINT;BY CFTR DIR SECT STATION;
VAR DF1-DF7;ID CONF OVR;
OUTPUT OUT=A MEAN=MD1-MD7;RUN;
/*PROC PRINT; VAR CFTR DIR SECT STATION CONF OVR MD1-MD7;*/
/***************************************/
/* SETTING UP CRACK MEAN DATA SET ******/
PROC SORT DATA=rpdb.CRACK87 OUT=XCRK; BY CFTR SECT DIR;
PROC MEANS DATA=XCRK NOPRINT;
VAR CRK; BY CFTR SECT DIR;
OUTPUT OUT=TEMPCRK MEAN=MCRK STD=SCRK;RUN;
/*PROC PRINT; VAR CFTR SECT DIR MCRK SCRK; RUN;*/
/**************************************/
```

```
/* SETTING UP TRAFFIC DATA SET********/
PROC SORT DATA=rpdb.TRAFFIC OUT=NEWTRAF;
BY CFTR DESCENDING YR;RUN;
/****************************************/
/* SETTING UP CONDITION SURVEY DATA SET */
PROC SORT DATA=rpdb.CONDSURV OUT=NEWCOND;
BY CFTR SECT DESCENDING YR DIR;
DATA _NULL_;
FILE PRINT NOTITLES N=PS LINE=LINNUM;
/**********************************************************************
/
/***            MAIN BODY OF PROGRAM
**/
/**********************************************************************
/
RETAIN; LENGTH FROM TO NJOB $25 WORD NAME $ 35 INFO  $ 45 TMP8 $ 8;

/********* STARTING AND ENDING PROJECT NUMBERS
*********************/
CFTR1=00000; CFTRF=03001;

/********* INDICES TO TOP & LENGTH OF EACH DATA BOX
*****************/
MXO= 2; MYO= 1; MX=56; MY=12;                /* MASTER FILE BOX  */
CXO=60; CYO= 1; CX=68; CY=10;                /* CONSTRUCTION BOX */
SXO=60; SYO=13; SX=68; SY=45;                /* SURVEY DATA BOX  */
TXO= 2; TYO=15; TX=56; TY=26;                /* TRAFFIC DATA BOX */
DXO= 2; DYO=43; DX=56; DY=15;                /* DEFLECTION BOX   */

IF _N_ = 1 THEN LINK INIT; /** READ TO STARTING POINT IN EACH FILE */
LINK DRAW;                 /** DRAW ALL THE BOXES AND TITLES      **/
L0:SET rpdb.MASTER;MCFTR = CFTR;IF MCFTR<CFTR1 THEN GO TO L0;
/* PUT ALL DATA FROM MASTER INTO APPROPRIATE BOXES **/

/****** PUT DATA FROM MASTER FILE IN LOCATION BOX  **************/
XO=MXO;YO=MYO;DIST=INT(CFTR/1000);
X=XO+8;Y=YO+2;PUT #Y @X CFTR 5.0;
X=XO+29;Y=YO+2;PUT #Y @X DIST;
X=XO+43;Y=YO+2;PUT #Y @X COUNTY ;
X=XO+8;Y=YO+3;PUT #Y @X CTRL 5.0;
X=XO+43;Y=YO+3;PUT #Y @X JOB;
X=XO+29;Y=YO+3;PUT #Y @X SEC;HY=SUBSTR(RIGHT(HWY),3,6);
X=XO+ 7;Y=YO+4;PUT #Y @X HY $ 6.; MP1=ROUND(MP1,.1);
MP2=ROUND(MP2,.1);
X=XO+32;Y=YO+4;PUT #Y @X MP1 '- MP ' MP2;

/****** PUT DATA FROM MASTER FILE IN CONSTRUCTION BOX ***********/
XO=CXO;YO=CYO; ST=RIGHT(ST); SWELL='     N/A'; ST=RIGHT(ST);
IF SOIL='H' THEN SWELL='  High'; IF SOIL='L' THEN SWELL='   Low';
/*** INTERPRET COARSE AGGREGATE CODE ***/
AGG='     N/A'; IF CAT=1 THEN AGG='     SRG';
IF CAT=2 THEN AGG='      LS';
IF CAT=3 THEN AGG='  SRG/LS'; IF CAT=4 THEN AGG='    SLAG';
IF CAT=4 THEN AGG='SLAG MIX';
/*** INTERPRET SUBBASE CODE ***/
SB='      N/A'; IF SBT=1 THEN SB='Aspt Trt'; IF SBT=2 THEN SB='Cmnt
Trt';
IF SBT=3 THEN SB='Lime Trt'; IF SBT=4 THEN SB='Crsh Stn';
```

```
/*** PARSE SUBSEQUENT JOB FIELD *******/
SJ1=SCAN(NJOB,1);SJ2=SCAN(NJOB,2); SJ3=SCAN(NJOB,3);SJ4=SCAN(NJOB,4);
TMP8=RIGHT(SUBSTR(LANE || '        ',1,8));
X=XO+22;Y=YO+2;PUT #Y @X CDATE 8.1;
        Y=YO+3;PUT #Y @X TMP8  8.;
        Y=YO+4;PUT #Y @X D 8.;
        Y=YO+5;PUT #Y @X sb;
        Y=YO+6;PUT #Y @X AGG $ 8.;
        Y=YO+7;PUT #Y @X L 8.2;
        Y=YO+8;PUT #Y @X TEMP 8.2;
        Y=YO+9;PUT #Y @X RAIN 8.2;
X=XO+53;Y=YO+2;PUT #Y @X CD 6.2;
        Y=YO+3;PUT #Y @X swell $ 6.;
        Y=YO+4;PUT #Y @X '    ' ST $;
X=XO+50;Y=YO+6;PUT #Y @X OV1 6.2 '   ' SJ1 $ 4.;
        Y=YO+7;PUT #Y @X OV2 6.2 '   ' SJ2 $ 4.;
        Y=YO+8;PUT #Y @X OV3 6.2 '   ' SJ3 $ 4.;
        Y=YO+9;PUT #Y @X OV4 6.2 '   ' SJ4 $ 4.;
/*******************************************************************
/
/**     CONDITION SURVEY
***/
/*******************************************************************
/
XO=SXO;YO=SYO;
Y = YO + 3;
CTOP: IF CCFTR NOT = MCFTR OR CEND=1 THEN GO TO TRAFFIC;
/** INTERPRET CODES **/
POS=' N/A ';IF CFP='C' THEN POS=' Cut '; IF CFP='F' THEN POS='Fill ';
IF CFP='G' THEN POS='Grade'; IF CFP='T' THEN POS='Trans';
CVE='N/A'; IF CURVE='Y' THEN CVE='Yes'; IF CURVE='N' THEN CVE=' No';
IF SOVR=' ' OR SOVR='NO' THEN SOVR='.';
X=XO+3;PUT #Y @X CSECT 1. SDIR $ 1.;
X=XO+7;PUT #Y @X CYR;
X=XO+11;PUT #Y @X POS $ 5.;
X=XO+18;PUT #Y @X CVE $ 3.;
X=XO+25;PUT #Y @X SOVR $ 1.;
X=XO+28;PUT #Y @X LEN 4.;
X=XO+32;PUT #Y @X ACP 3.;
X=XO+36;PUT #Y @X PCCP 3.;
X=XO+40;PUT #Y @X MPO 3.;
X=XO+44;PUT #Y @X SPO 3.;
X=XO+49;PUT #Y @X NCRK 3.;
/** READ CRACK FILE ***/;
MK=.;SK=.;
IF KCFTR>MCFTR OR KSECT>CSECT OR KDIR NOT = SDIR OR KEND=1
               THEN GO TO NOCRK;
MK=MCRK; SK=SCRK; LINK RKRAK;
NOCRK:X=XO+53;PUT #Y @X MK 5.1;
      X=XO+58;PUT #Y @X SK 5.1;
/**********  CALCULATE Z SCORES FROM PUNCHOUTS AND PATCHES ********/
MPM=MPO*5280/LEN; SPM=SPO*5280/LEN; PPM=(ACP+PCCP)*5280/LEN;
Z=1-.007*LOG(MPM+1)-.3978*LOG(SPM+1)-.4165*LOG(PPM+1);
      X=XO+64;PUT #Y @X Z 4.1;
/********** PUT SECTION LOCATION INFO IN LOCATION BOX    **********/
CYO=5+MYO+CSECT;XX=MYO+10;X2=MYO+3;
/*PUT #CYO @X2 BL $ 45.*/;
INFO=SUBSTR(TRIM(FROM) || ' - ' || TO || REPEAT(' ',45),1,45);
```

```
PUT #CYO @X2 'SEC ' CSECT 1. ':' @XX INFO CHAR45.;
Y = Y + 1;
LINK RNEWCOND; IF CEND=0 THEN GO TO CTOP;

/*******************************************************************/
/**           TRAFFIC                                             **/
/*******************************************************************/
TRAFFIC:
XO=TXO;YO=TYO;Y=YO+3;
IF TCFTR>MCFTR OR TEND=1 THEN DO; X=XO+8; Y=YO+10;
PUT #Y @X '**** NO TRAFFIC HISTORY IN DATABASE. ****'; Y=Y+2;
IF ADT85 NOT = . THEN
PUT #Y @X '1985 ADT was ' ADT85 'with ' G 4.1 '% growth.';
END;
TTOP: IF TCFTR NOT = MCFTR OR TEND=1 THEN GO TO DEFLEC;
X=XO+3;PUT #Y @X TYR;
X=XO+8;PUT #Y @X ADT 6.0;
X=XO+18;PUT #Y @X PTRUCK 2.0;
X=XO+26;PUT #Y @X ATHWL 5.0;
X=XO+36;PUT #Y @X PTAND 3.0;
X=XO+43;PUT #Y @X ESAL2 8.0;
Y = Y +1;
LINK RTRAF; IF TEND=0 THEN GO TO TTOP;

/*********************************************************************/
/**        DEFLECTION                                              **/
/*********************************************************************/
DEFLEC:
XO=DXO; YO=DYO;Y=YO+3;
DTOP: IF DCFTR NOT = MCFTR OR DEND=1 THEN GO TO POUT;
LOC="EDG"; IF STATION=2 OR STATION=5 THEN LOC="INT";
X=XO+2;PUT #Y @X DSECT 1. DDIR $ 1.;
X=XO+5;PUT #Y @X LOC;
X=XO+10;PUT #Y @X MD1 4.2;
X=XO+15;PUT #Y @X MD2 4.2;
X=XO+20;PUT #Y @X MD3 4.2;
X=XO+25;PUT #Y @X MD4 4.2;
X=XO+30;PUT #Y @X MD5 4.2;
X=XO+35;PUT #Y @X MD6 4.2;
X=XO+40;PUT #Y @X MD7 4.2;
X=XO+46;PUT #Y @X DOVR $;
X=XO+51;PUT #Y @X CONF $;
Y = Y + 1;
IF Y > YO+15 THEN DO; Y=YO+15; PUT #YO @XO+30 '+';END;
LINK RFWD; IF DEND=0 THEN GO TO DTOP;

/********** FINISHED FORMATTING PAGE, NOW PRINT IT
*******************/
POUT: IF MCFTR>=CFTRF THEN STOP;/** FINISHED WITH REPORT **/
      PUT _PAGE_;
      RETURN;
/****** SUBROUTINES TO READ EACH FILE ******************************/
RNEWCOND: SET NEWCOND END=CEND;CCFTR=CFTR;CYR=YR;CSECT=SECT;SOVR=OVR;
          SDIR=DIR;RETURN;      /* SURVEY */
RFWD:   SET A END=DEND;DCFTR=CFTR;DOVR=OVR;DSECT=SECT;
        DDIR=DIR;RETURN;             /* DEFLECTION */
RTRAF:  SET NEWTRAF END=TEND;TCFTR=CFTR;TYR=YR;
RETURN;/* TRAFFIC */
```

```
RKRAK:  SET TEMPCRK END=KEND;KCFTR=CFTR;KSECT=SECT;KDIR=DIR;
   RETURN;                                           /* CRACKS*/
/*****  SUBROUTINE TO INITIALIZE FILES TO STARTING POINT
************/
INIT: LINK RNEWCOND;IF CCFTR<CFTR1 THEN GO TO INIT;
  L2: LINK RFWD;IF DCFTR<CFTR1 THEN GO TO L2;
  L3: LINK RTRAF;IF TCFTR<CFTR1 THEN GO TO L3;
  L4: LINK RKRAK;IF KCFTR<CFTR1 THEN GO TO L4;
      RETURN;
/*****  SUBROUTINE TO DRAW ALL BOXES *******************************/
DRAW:
/* CONDITION SURVEY BOX */
 X0 = SXO;Y0 =SYO;X = SX; Y = SY;LINK DRAWBOX;
 NAME = '- CONDITION SURVEY -';X1 = 2; Y1 = 0; LINK WRITWORD;
 NAME = 'SEC'; X1 = 2; Y1 = 1;LINK WRITWORD;
 NAME = 'YR'; X1 = 7; LINK WRITWORD;
 NAME = 'POS'; X1=12;LINK WRITWORD;
 NAME = 'CURVE';X1=17;LINK WRITWORD;
 NAME = 'OVR'; X1=24;LINK WRITWORD;
 NAME = 'LEN'; X1=29;LINK WRITWORD;
 NAME = 'ACP'; X1 = 33; LINK WRITWORD;
 NAME = 'PCP'; X1 = 37; LINK WRITWORD;
 NAME = 'MPO'; X1 = 41; LINK WRITWORD;
 NAME = 'SPO'; X1 = 45; LINK WRITWORD;
 NAME = 'CRKS'; X1 = 49; LINK WRITWORD;
 NAME = 'SPAC'; X1=54; LINK WRITWORD;
 NAME = 'SDEV'; X1=59; LINK WRITWORD;
 NAME = 'Z';    X1=66; LINK WRITWORD;
/***********************************************/
/* LOCATION BOX */
  X0 = MXO; Y0 = MYO; X = MX; Y = MY; LINK DRAWBOX;
  NAME = '- SECTION ID -'; X1=2; Y1=0; LINK WRITWORD;
  NAME = 'CFTR:'; X1 = 2; Y1 = 2; LINK WRITWORD;
  NAME = 'District:'; X1=19; Y1=2; LINK WRITWORD;
  NAME = 'County:'; X1 = 35; Y1 = 2; LINK WRITWORD;
  NAME = 'CTRL:'; X1 = 2; Y1 = 3; LINK WRITWORD;
  NAME = 'Section:'; X1 = 20; Y1 = 3; LINK WRITWORD;
  NAME = 'Job:'; X1=38; Y1=3;LINK WRITWORD;
  NAME = 'Hwy: ';X1=3;Y1=4;LINK WRITWORD;
  NAME = 'Location: MP ';X1=19;Y1=4;LINK WRITWORD;
/**************************************/
/* TRAFFIC BOX */
    X0=TXO; Y0=TYO; X = TX; Y = TY; LINK DRAWBOX;
    X1 = 2; Y1 = 0; NAME = '- TRAFFIC -'; LINK WRITWORD;
    X1 = 3; Y1 = 1; NAME = 'YR'; LINK WRITWORD;
    X1 =10;         NAME = 'ADT';  LINK WRITWORD;
    X1 =16;         NAME = '%TRUCK'; LINK WRITWORD;
    X1 =26;         NAME = 'ATHWL'; LINK WRITWORD;
    X1 =34;         NAME = '%TAND'; LINK WRITWORD;
    X1 =45;         NAME = 'ESAL2'; LINK WRITWORD;
/*****************************************************/
/****  CONSTRUCTION BOX *****/
  X0 =CXO; Y0 =CYO;X = CX; Y = CY;LINK DRAWBOX;
  NAME = '- CONSTRUCTION -'; X1 = 2; Y1 = 0; LINK WRITWORD;
  NAME = 'Constructed:'; X1=4; Y1 = 2; LINK WRITWORD;
  NAME = 'Lane:'; Y1 = 3; LINK WRITWORD;
  NAME = 'Thickness:'; Y1 = 4; LINK WRITWORD;
  NAME = 'Subbase:'; Y1 = 5; LINK WRITWORD;
```

```
  NAME = 'Coarse agg:'; Y1 = 6; LINK WRITWORD;
  NAME = 'Length:'; Y1 = 7; LINK WRITWORD;
  NAME = 'Avg Low Temp:'; Y1 = 8; LINK WRITWORD;
  NAME = 'Rainfall:'; Y1 = 9; LINK WRITWORD;
  NAME = 'Drainage:'; X1 = 37; Y1 = 2; LINK WRITWORD;
  NAME = 'Swelling:'; Y1 = 3; LINK WRITWORD;
  NAME = 'Surface:'; Y1 = 4; LINK WRITWORD;
  NAME = 'Year   Job '; X1=51; Y1 = 5; LINK WRITWORD;
          X1=37;
  NAME = '1st Ovly:'; Y1 = 6; LINK WRITWORD;
  NAME = '2nd Ovly:'; Y1 = 7; LINK WRITWORD;
  NAME = '3rd Ovly:'; Y1 = 8;LINK WRITWORD;
  NAME = '4th Ovly:'; Y1 = 9;LINK WRITWORD;
/****************************************************************/
/*****  DEFLECTION BOX *****/
  X0 =DXO; Y0 =DYO; X = DX; Y =DY;  LINK DRAWBOX;
  X1 = 2; Y1 = 0; NAME = '- 1987 DEFLECTIONS (9 Kips) -';
  LINK WRITWORD;
  X1 = 1; Y1 = 1; NAME = 'SEC'; LINK WRITWORD;
  X1 = 5;         NAME = 'LOC'; LINK WRITWORD;
  X1 = 11;        NAME = 'DF1'; LINK WRITWORD;
  X1 = 16;        NAME = 'DF2'; LINK WRITWORD;
  X1 = 21;        NAME = 'DF3'; LINK WRITWORD;
  X1 = 26;        NAME = 'DF4'; LINK WRITWORD;
  X1 = 31;        NAME = 'DF5'; LINK WRITWORD;
  X1 = 36;        NAME = 'DF6'; LINK WRITWORD;
  X1 = 41;        NAME = 'DF7'; LINK WRITWORD;
  X1 = 45;        NAME = 'OVR'; LINK WRITWORD;
  X1 = 50;        NAME = 'CONF'; LINK WRITWORD;
RETURN;
/******* SUBROUTINE TO DRAW BOXES *****************************/
DRAWBOX:PUT #Y0 @X0 @;PUT '*' @;
   DO TMP = 1 TO X;PUT '-' @;END;
   PUT '*';
   DO TMP = 1 TO Y;PUT @X0 '|' +X '|';END;
   PUT @X0 '*' @;
   DO TMP = 1 TO X;PUT '-' @;END;
   PUT '*';
RETURN;
/******** SUBROUTINE TO PUT TITLES INTO BOXES ********************/
WRITWORD:
   WORD = NAME;
   Y1 = Y1 + Y0; X1 = X1 + X0;
   PUT #Y1 @X1 WORD;
   Y1 = Y1 - Y0; X1 = X1 - X0;
 RETURN;
run;
```

# Appendix C.
# MS Access Report Section Location by Reference Marker

Center for Transportation Research
The University of Texas at Austin

## Texas Rigid Pavement Database

# Section Locations by Reference Marker

| Project | County | Hwy | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | RM1 | RM2 | LD | RM1 | RM2 | LD | RM1 | RM2 | LD | RM1 | RM2 | LD | RM1 | RM2 | LD | RM1 | RM2 | LD6 |
| 1001 | Hopkins | IH30 | 134-0.2 | 134-0.4 | L1 | 134-0.5 | 134-0.7 | L1 | 133-0.3 | 133-0.5 | L1 | 132-0.45 | 132-0.65 | L1 | 131-0.6 | 131-0.8 | L1 | 130+0 | 130-0.2 | L1 |
| 1003 | Hopkins | IH30 | 143-0.8 | 143-1 | L1 | 142-0.8 | 142-1 | L1 | 141-0.8 | 141-1 | L1 | 140-0.25 | 140-0.45 | L1 | 139+0.36 | 139+0.16 | L1 | 139-0.65 | 139-0.85 | L1 |
| 1005 | Franklin | IH30 | 153+0 | 153-0.2 | L1 | 152+0 | 152-0.2 | L1 | 152-0.3 | 152-0.5 | L1 | | | | 151+0 | 151-0.2 | L1 | 149+0 | 149+0.2 | R1 |
| 1008 | Grayson | US75 | 216-0.05 | 216+0.15 | R1 | 218+0.4 | 218+0.6 | R1 | 218+1.95 | 220+0.1 | R1 | | | | | | | | | |
| 1013 | Lamar | US271 | 196-0.7 | 196-0.9 | L1 | 194+0.35 | 194+0.15 | L1 | 194+0.15 | 194-0.05 | L1 | 194-0.6 | 194-0.8 | L1 | | | | | | |
| 1015 | Grayson | US82 | 640+0.5 | 640+0.7 | R1 | 642-0.45 | 642-0.25 | R1 | 642+.2 | 642+0 | L1 | 642-1.3 | 642-1.5 | L1 | 640+0.2 | 640+0 | L1 | | | |
| 2002 | Parker | IH20 | 414+1.1 | 414+1.3 | R1 | 416+0.2 | 416+0.4 | R1 | 416+0.35 | 416+0.55 | R1 | 417+0.4 | 417+0.6 | R1 | 417+0.75 | 417+0.95 | R1 | | | |
| 2028 | Johnson | IH35W | 32+0.4 | 32+0.6 | R1 | 33+0.2 | 36+0.0 | L1 | 36-0.2 | 36-0.4 | L1 | | | | | | | | | |
| 2031 | Tarrant | IH820 | 20+0.22 | 20+0.02 | L1 | 20-0.2 | 20-0.4 | L1 | 18-0.45 | 18-0.65 | L1 | 18-0.65 | 18-0.85 | L1 | | | | | | |
| 2032 | Tarrant | IH30 | 0+1.6 | 0+1.8 | R1 | 4+0.5 | 4+0.7 | R1 | 6+0.65 | 6+0.85 | R1 | | | | | | | | | |
| 2041 | Tarrant | US287 | | | | | | | | | | | | | | | | | | |
| 2044 | Wise | US287 | | | | | | | | | | | | | | | | | | |
| 2046 | Tarrant | SH121 | | | | | | | | | | | | | | | | | | |
| 2049 | Tarrant | US287 | 266-1.0 | 266-1.2 | L1 | 266+0.3 | 266+0.5 | R1 | 266+1.6 | 266+1.8 | R2 | 268-0.13 | 268+0.06 | R1 | | | | | | |
| 2050 | Tarrant | US287 | 272+0.23 | 272+0.03 | L1 | 272+1.2 | 272+1.4 | R1 | | | | | | | | | | | | |
| 2051 | Parker | IH20 | 390-0.6 | 390-0.8 | L1 | 388+0.95 | 388+1.15 | R1 | | | | | | | | | | | | |
| 2059 | Erath | IH20 | 368-0.03 | 368-0.23 | L1 | 366+0.85 | 367+0.05 | R1 | | | | | | | | | | | | |
| 2060 | Tarrant | IH20 | 445-0.04 | 445+0.0 | L1 | 445-0.4 | 445-0.6 | L1 | | | | | | | | | | | | |
| 2075 | Tarrant | IH35W | 45+0.02 | 45-0.22 | L1 | 43-0.1 | 43-0.3 | L1 | 41-0.13 | 41-0.33 | L1 | 41-0.45 | 41-0.65 | L1 | | | | | | |
| 2098 | Tarrant | IH820 | 13-0.5 | 13-0.7 | L1 | 11+0.0 | 11-0.2 | L1 | | | | | | | | | | | | |
| 3001 | Wichita | IH44 | 4+0.2 | 4+0.4 | R1 | 5+0.0 | 5+0.2 | R1 | 14-0.25 | 14-0.45 | L1 | | | | | | | | | |
| 3004 | Wichita | IH44 | 12-0.35 | 12-0.15 | R1 | | | | 12+0.15 | 12-0.05 | L1 | 11+0.5 | 11+0.35 | L1 | 11+0.25 | 11+0.45 | R1 | | | |

| Project | County | Hwy | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | RM1 | RM2 | LD | RM1 | RM2 | LD | RM1 | RM2 | LD | RM1 | RM2 | LD | RM1 | RM2 | LD | RM1 | RM2 | LD6 |
| 3010 | Wichita | US287 | 314+1.0 | 314+1.2 | R1 | 316-0.2 | 316+0.0 | R1 | 316+0.9 | 316+1.1 | R1 | 322+0.3 | 322+0.5 | R1 | 316+0.2 | 316+0.05 | L1 | 317+0.2 | 317+0.0 | L1 |
| 3011 | Wilbarger | US287 | 312-0.1 | 312-0.3 | L1 | 312-0.5 | 312-0.7 | L1 | 312-0.7 | 312-0.9 | L1 | 312-0.1 | 312+0.1 | R1 | | | | | | |
| 3018 | Montague | US287 | 390+0.4 | 390+0.6 | R1 | 392+0.1 | 392+0.3 | R1 | 394+1.4 | 394+1.6 | R1 | 394+1.6 | 394+1.8 | R1 | 222+0.4 | 222+0.2 | L1 | 220-0.4 | 220-0.6 | L1 |
| 3022 | Wilbarger | US287 | 302+0.0 | 302-0.8 | L2 | 304-0.4 | 304-0.6 | L1 | 304-0.15 | 304-0.35 | L1 | 302+0.6 | 302+0.4 | L1 | 308-0.5 | 308-0.7 | L1 | | | |
| 4002 | Potter | IH40 | 72-0.3 | 72-0.5 | L1 | 71+0.5 | 71+0.3 | L1 | | | | | | | | | | | | |
| 4005 | Carson | IH40 | 88+0.5 | 88+0.7 | R1 | 89+0.2 | 89+0.0 | L1 | 86+0.2 | 86+0.0 | L1 | | | | | | | | | |
| 4009 | Potter | IH40 | 67-0.15 | 67-0.35 | L1 | 67-0.45 | 67-0.65 | L1 | 66-0.15 | 66-0.35 | L1 | 65+0.2 | 65+0.0 | L1 | 63-0.25 | 63-0.45 | L1 | | | |
| 4010 | Potter | IH40 | 82+0.2 | 82+0.0 | L1 | 79+0.2 | 79+0.0 | L1 | 79-0.1 | 79-0.3 | L1 | | | | | | | | | |
| 4011 | Potter | IH40 | 60+0.0 | 60+0.2 | R1 | 60+0.5 | 60+0.7 | R1 | 56+0.2 | 56+0.0 | L1 | | | | | | | | | |
| 4021 | Carson | IH40 | | | | | | | | | | | | | | | | | | |
| 4022 | Gray | IH40 | 115+0.2 | 115+0.0 | L1 | 114+0.7 | 114+0.5 | L1 | | | | | | | | | | | | |
| 4023 | Gray | IH40 | 125-0.4 | 125-0.6 | L1 | 124+ | 124+ | L1 | 123+0.15 | 123-0.05 | L1 | | | | | | | | | |
| 4025 | Gray | IH40 | 130-0.2 | 130-0.4 | L1 | 130-0.5 | 130-0.7 | L1 | 128+0.1 | 128-0.1 | L1 | 128-0.4 | 128-0.6 | L1 | | | | | | |
| 4027 | Gray | IH40 | | | | | | | | | | | | | | | | | | |
| 4028 | Gray | IH40 | | | | | | | | | | | | | | | | | | |
| 4100 | Error | | | | | | | | | | | | | | | | | | | |
| 5001 | Lubbock | IH27 | | | | | | | | | | | | | | | | | | |
| 5002 | Hale | IH27 | | | | | | | | | | | | | | | | | | |
| 5003 | Lubbock | IH27 | | | | | | | | | | | | | | | | | | |
| 5005 | Hale | IH27 | 39+0.0 | 39+0.2 | R1 | 43-0.2 | 43+0.0 | R1 | | | | | | | | | | | | |
| 5006 | Hale | IH27 | | | | | | | | | | | | | | | | | | |
| 5007 | Hale | IH27 | 39-0.5 | 39-0.7 | L1 | 38+0.07 | 38-0.13 | L1 | 39+0.0 | 39-0.2 | L1 | | | | | | | | | |
| 5008 | Hale | IH27 | 55+0.0 | 55-0.2 | R1 | 55+0.0 | 55-0.2 | L1 | | | | | | | | | | | | |
| 5009 | Swisher | IH27 | 60+0.0 | 60+0.2 | R1 | 59+0.1 | 59+0.3 | L1 | | | | | | | | | | | | |
| 9001 | Falls | IH35 | 313+0.6 | 313+0.8 | R1 | 313+1.1 | 313+1.3 | R1 | 314+0.65 | 314+0.85 | R1 | 315+0.1 | 315+0.3 | R1 | 315-0.1 | 315-0.3 | L1 | | | |
| 9002 | McLennan | IH35 | 316+0.3 | 316+0.5 | R1 | 316+.09 | 316+1.1 | R1 | 318+0.1 | 318+0.3 | R1 | 319-0.3 | 319-0.5 | L1 | 318-0.3 | 318-0.5 | L1 | 318-0.8 | 318-1.0 | L1 |
| 9004 | McLennan | IH35 | 335-1.7 | 335-1.9 | L1 | 335-1.9 | 335-2.1 | L1 | 331+0.7 | 331+0.9 | R1 | 332+0.5 | 332+0.6 | R1 | | | | | | |
| 9102 | Error | | | | | | | | | | | | | | | | | | | |

| | | | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Project*** | ***County*** | ***Hwy*** | ***RM1*** | ***RM2*** | ***LD*** | ***RM1*** | ***RM2*** | ***LD*** | ***RM1*** | ***RM2*** | ***LD*** | ***RM1*** | ***RM2*** | ***LD*** | ***RM1*** | ***RM2*** | ***LD*** | ***RM1*** | ***RM2*** | ***LD6*** |
| 12123 | Error | | | | | | | | | | | | | | | | | | | |
| 12439 | Error | | | | | | | | | | | | | | | | | | | |
| 12440 | Error | | | | | | | | | | | | | | | | | | | |
| 12441 | Error | | | | | | | | | | | | | | | | | | | |
| 12443 | Error | | | | | | | | | | | | | | | | | | | |
| 12444 | Missing | | | | | | | | | | | | | | | | | | | |
| 12447 | Errir | | | | | | | | | | | | | | | | | | | |
| 12500 | HARRIS | SH225 | | | | | | | | | | | | | | | | | | |
| 12501 | HARRIS | SH6 | | | | | | | | | | | | | | | | | | |
| 12502 | HARRIS | SH6 | | | | | | | | | | | | | | | | | | |
| 12503 | HARRIS | SH6 | | | | | | | | | | | | | | | | | | |
| 12504 | HARRIS | SH6 | | | | | | | | | | | | | | | | | | |
| 12505 | HARRIS | BW8 | | | | | | | | | | | | | | | | | | |
| 12506 | HARRIS | BW8 | | | | | | | | | | | | | | | | | | |
| 12507 | HARRIS | IH45 | | | | | | | | | | | | | | | | | | |
| 12508 | HARRIS | IH45 | | | | | | | | | | | | | | | | | | |
| 12901 | Harris | BE8 | 722+0.25 | 722+0.45 | R1 | 722+0.45 | 722+0.65 | R1 | 724-0.87 | 724-1.07 | R1 | 724-1.07 | 724-1.27 | R1 | | | | | | |
| 12902 | Harris | BE8 | 720+1.4 | 720+1.6 | R1 | 722-0.3 | 722-0.5 | R1 | | | | | | | | | | | | |
| 12903 | Harris | BE8 | | | | | | | | | | | | | | | | | | |
| 12904 | Harris | BE8 | | | | | | | | | | | | | | | | | | |
| 12905 | Harris | BE8 | | | | | | | | | | | | | | | | | | |
| 12906 | Harris | BW8 | 702+0.0 | 702+0.2 | A1 | | | | | | | | | | | | | | | |
| 12907 | Harris | BW8 | 702+0.0 | 702-0.2 | X1 | | | | | | | | | | | | | | | |
| 12908 | Harris | BW8 | 706+0.0 | 706-0.2 | X1 | | | | | | | | | | | | | | | |
| 12909 | Harris | BW8 | 706-0.2 | 706+0.0 | A1 | | | | | | | | | | | | | | | |
| 12920 | Missing | | | | | | | | | | | | | | | | | | | |
| 12925 | Missing | | | | | | | | | | | | | | | | | | | |
| 12996 | Missing | | | | | | | | | | | | | | | | | | | |

| | | | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Project* | *County* | *Hwy* | *RM1* | *RM2* | *LD* | *RM1* | *RM2* | *LD* | *RM1* | *RM2* | *LD* | *RM1* | *RM2* | *LD* | *RM1* | *RM2* | *LD* | *RM1* | *RM2* | *LD6* |
| 12997 | Missing | | | | | | | | | | | | | | | | | | | |
| 12998 | Missing | | | | | | | | | | | | | | | | | | | |
| 12999 | Missing | | | | | | | | | | | | | | | | | | | |
| 13001 | Colorado | IH10 | | | | | | | | | | | | | | | | | | |
| 13002 | Colorado | IH10 | | | | | | | | | | | | | | | | | | |
| 13007 | Colorado | IH10 | | | | | | | | | | | | | | | | | | |
| 13009 | Victoria | US77 | 546-1.2 | 546-1.4 | R1 | 546+1.5 | 546+1.7 | L1 | | | | | | | | | | | | |
| 13013 | Fayette | IH10 | | | | | | | | | | | | | | | | | | |
| 13015 | Fayette | IH10 | | | | | | | | | | | | | | | | | | |
| 13018 | Victoria | US59 | | | | | | | | | | | | | | | | | | |
| 13019 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13020 | Gonzales | IH10 | | | | | | | | | | | | | | | | | | |
| 13021 | Gonzales | IH10 | | | | | | | | | | | | | | | | | | |
| 13023 | Wharton | US59 | | | | | | | | | | | | | | | | | | |
| 13024 | Wharton | US59 | | | | | | | | | | | | | | | | | | |
| 13028 | Wharton | US59 | | | | | | | | | | | | | | | | | | |
| 13029 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13030 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13031 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13032 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13101 | Missing | | | | | | | | | | | | | | | | | | | |
| 13103 | Missing | | | | | | | | | | | | | | | | | | | |
| 13104 | Missing | | | | | | | | | | | | | | | | | | | |
| 15015 | Missing | | | | | | | | | | | | | | | | | | | |
| 15032 | Bexar | US281 | | | | 143+0.8 | 144+0.0 | R1 | | | | | | | | | | | | |
| 15033 | Bexar | US281 | | | | | | | | | | | | | | | | | | |
| 15036 | Bexar | US281 | 144+1.1 | 144+1.3 | R1 | 147+0.8 | 148+0.0 | R1 | 147+0.4 | 147+0.6 | R1 | | | | | | | | | |
| 15901 | Bexar | IH35 | 167+0.89 | 168+0.04 | R1 | | | | | | | | | | | | | | | |

| | | | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | **County** | **Hwy** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD6** |
| 15902 | Bexar | IH35 | 166+0.0 | 166+0.16 | R1 | 165+0.65 | 165+0.85 | R1 | | | | | | | | | | | | |
| 15903 | Bexar | IH410 | | | | | | | | | | | | | | | | | | |
| 15911 | Bexar | IH35 | | | | | | | | | | | | | | | | | | |
| 15912 | Bexar | IH35 | | | | | | | | | | | | | | | | | | |
| 17002 | Walker | IH45 | 124+0.0 | 124+0.2 | R1 | 132-0.1 | 132-0.3 | L1 | 131-0.6 | 131-0.8 | L1 | 130+0.0 | 130-0.2 | L1 | 130-0.5 | 130-0.7 | L1 | 129-0.5 | 129-0.7 | L1 |
| 17003 | Leon | IH45 | 152+0.8 | 153+0.0 | R1 | 153+0.5 | 153+0.7 | R1 | 153+0.9 | 154+0.1 | R1 | 157+0.2 | 157+0.4 | R1 | 157+0.5 | 157+0.7 | R1 | 158+0.0 | 158+0.2 | R1 |
| 17004 | Madison | IH45 | 152-0.2 | 152-0.4 | L1 | 150+0.0 | 150-0.2 | L1 | 150-0.3 | 150-0.5 | L1 | 149+0.2 | 149+0.0 | L1 | 149-0.1 | 149-0.3 | L1 | 148-0.5 | 148-0.7 | L1 |
| 17007 | Leon | IH45 | 173+0.0 | 173-0.2 | L1 | 172+0.2 | 172+0.0 | L1 | 171+0.9 | 171+0.7 | L1 | 171+0.6 | 171+0.4 | L1 | 171-0.2 | 171-0.4 | L1 | 170+0.2 | 170+0.0 | L1 |
| 17011 | Brazos | SH6 | | | | | | | | | | | | | | | | | | |
| 18034 | | | | | | | | | | | | | | | | | | | | |
| 18054 | Dallas | IH30 | 50+0.1 | 50-0.1 | R1 | 49+0.2 | 49+0.0 | R1 | | | | | | | | | | | | |
| 18062 | Dallas | IH30 | 46-0.15 | 46+0.05 | R1 | | | | | | | | | | | | | | | |
| 18066 | Dallas | IH35E | 422+0.2 | 422+0.4 | R1 | 423+0.3 | 423+0.5 | L1 | | | | | | | | | | | | |
| 18071 | Denton | IH35W | | | | | | | | | | | | | | | | | | |
| 18072 | Dallas | IH635 | | | | | | | 25-0.06 | 25-0.26 | L1 | 24+0.4 | 24+0.2 | L1 | | | | | | |
| 18073 | Dallas | IH635 | 23+0.7 | 23+0.5 | L1 | | | | | | | | | | | | | | | |
| 18079 | Dallas | IH635 | 19-0.76 | 19-0.96 | L1 | | | | 31+0.7 | 31+0.9 | R1 | | | | | | | | | |
| 18080 | Denton | IH35W | | | | | | | | | | | | | | | | | | |
| 18084 | | | | | | | | | | | | | | | | | | | | |
| 18086 | Denton | IH35W | | | | | | | | | | | | | | | | | | |
| 18088 | Dallas | IH635 | | | | | | | | | | | | | | | | | | |
| 18093 | Dallas | IH45 | | | | | | | | | | | | | | | | | | |
| 18106 | Dallas | IH20 | 464+0.2 | 464+0.4 | R1 | 466+0.2 | 466+0.0 | L1 | 466-0.75 | 466-0.95 | L1 | | | | | | | | | |
| 18107 | Dallas | IH20 | 457+0.61 | 457+0.81 | R1 | 457+0.4 | 457+0.6 | R1 | 460-0.6 | 460-0.4 | L1 | | | | | | | | | |
| 19001 | Harrison | IH20 | | | | | | | | | | | | | | | | | | |
| 19006 | Harrison | IH20 | | | | | | | | | | | | | | | | | | |
| 19010 | Bowie | IH30 | | | | | | | | | | | | | | | | | | |
| 19019 | Bowie | IH30 | | | | | | | | | | | | | | | | | | |

| | | | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | **County** | **Hwy** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD** | **RM1** | **RM2** | **LD6** |
| 20003 | Jefferson | SH73 | | | | | | | | | | | | | | | | | | |
| 20009 | Jefferson | IH10 | | | | | | | | | | | | | | | | | | |
| 20011 | Jefferson | US96 | | | | | | | | | | | | | | | | | | |
| 20023 | Jefferson | US69 | | | | | | | | | | | | | | | | | | |
| 24003 | ElPaso | IH10 | 20+0.2 | 20+0.4 | R5 | | | | | | | | | | | | | | | |
| 24004 | ElPaso | IH10 | 21+0.0 | 21+0.2 | R5 | | | | | | | | | | | | | | | |
| 24006 | ElPaso | IH10 | 18+0.6 | 18+0.4 | L4 | 19+0.1 | 18+0.9 | L4 | | | | | | | | | | | | |
| 24007 | ElPaso | IH10 | 17+0.7 | 17+0.5 | L4 | 16+0.6 | 16+0.4 | L4 | 18+0.85 | 15+0.65 | L4 | 14+0.8 | 14+0.6 | L3 | | | | | | |
| 24009 | Culberson | IH10 | 177+0.25 | 177+0.45 | R2 | 178+0.5 | 178+0.7 | R2 | 178-0.01 | 178-0.21 | L2 | | | | | | | | | |
| 24010 | JeffDavis | IH10 | 185+0.0 | 185-0.2 | L2 | 183+0.7 | 183+0.5 | L2 | 182+0.6 | 182+0.4 | L2 | 181+0.0 | 180+0.8 | L2 | 186+0.2 | 186+0.4 | R2 | 180+0.8 | 180+0.6 | L2 |
| 24011 | Culberson | IH10 | 175+0.0 | 175+0.2 | R2 | | | | | | | | | | | | | | | |
| 24012 | Culberson | IH10 | | | | 166+0.2 | 166+0.4 | R2 | | | | | | | | | | | | |
| 24014 | Culberson | IH10 | 154+0.05 | 154+0.25 | R2 | 155+0.8 | 156+0.0 | R2 | 164-0.04 | 164+0.24 | R2 | 165+0.0 | 165+0.2 | R2 | | | | | | |
| 24015 | Culberson | IH10 | 153+0.1 | 153+0.3 | R2 | | | | | | | | | | | | | | | |
| 24020 | Culberson | IH10 | 142+0.0 | 142+0.2 | R2 | | | | | | | | | | | | | | | |
| 24022 | Culberson | IH10 | 138+0.25 | 138+0.45 | R2 | 139+0.7 | 139+0.5 | L2 | 138+0.0 | 137+0.8 | L2 | | | | | | | | | |
| 24023 | Culberson | IH10 | 140+0.2 | 140+0.4 | R2 | | | | | | | | | | | | | | | |
| 24028 | ElPaso | US54 | 4+0.0 | 4+0.2 | R1 | 5+0.5 | 5+0.7 | R1 | 6+0.0 | 6+0.15 | R1 | | | | | | | | | |
| 24091 | | | 97+0.7 | 97+0.5 | L2 | 93-0.04 | 93-0.24 | L2 | | | | | | | | | | | | |
| 24100 | Missing | | | | | | | | | | | | | | | | | | | |
| 24101 | Missing | | | | | | | | | | | | | | | | | | | |
| 24200 | Missing | | | | | | | | | | | | | | | | | | | |
| 24300 | Missing | | | | | | | | | | | | | | | | | | | |

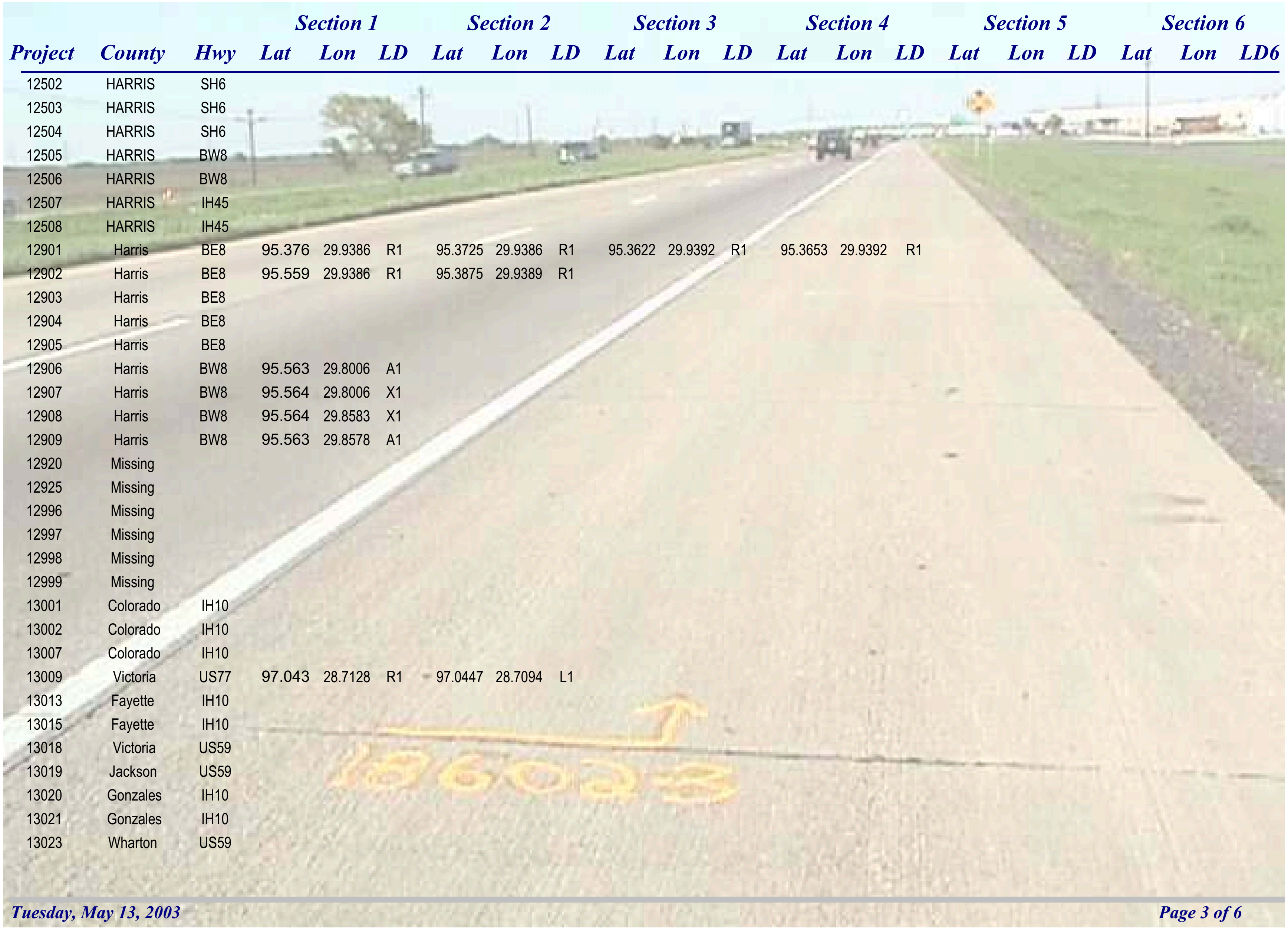
# Appendix D.
# MS Access Report Section Location by GPS Coordinates

Center for Transportation Research
The University of Texas at Austin

# Texas Rigid Pavement Database
# Section Locations by GPS Coordinates

| | | | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project | County | Hwy | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD6 |
| 1001 | Hopkins | IH30 | 33.148 | 95.4547 | L1 | 33.1469 | 95.46 | L1 | 33.1469 | 95.4619 | L1 | 33.1469 | 95.4931 | L1 | 33.147 | 95.5131 | L1 | 33.147 | 95.52 | L1 |
| 1003 | Hopkins | IH30 | 33.167 | 95.3139 | L1 | 33.1675 | 95.3303 | L1 | 33.1672 | 95.3503 | L1 | 33.1803 | 95.3558 | L1 | 33.167 | 95.3642 | L1 | 33.166 | 95.3811 | L1 |
| 1005 | Franklin | IH30 | 33.161 | 95.1289 | L1 | 33.1611 | 95.1294 | L1 | 33.1619 | 95.1461 | L1 | | | | 33.163 | 95.1633 | L1 | 33.159 | 95.1972 | R1 |
| 1008 | Grayson | US75 | 33.503 | 96.6189 | R1 | 33.4686 | 96.615 | R1 | 33.4483 | 96.6039 | R1 | | | | | | | | | |
| 1013 | Lamar | US271 | 33.745 | 95.5453 | L1 | 33.7597 | 95.5414 | L1 | 33.7619 | 95.5406 | L1 | 33.7731 | 95.5369 | L1 | | | | | | |
| 1015 | Grayson | US82 | 33.671 | 96.6289 | R1 | 33.6708 | 96.6133 | R1 | 33.6706 | 96.6033 | L1 | 33.6706 | 96.6289 | L1 | 33.671 | 96.6376 | L1 | | | |
| 2002 | Parker | IH20 | 97.678 | 32.7492 | R1 | 97.6628 | 32.7433 | R1 | 97.6581 | 32.7417 | R1 | 97.6436 | 32.7372 | R1 | 97.638 | 32.7358 | R1 | | | |
| 2028 | Johnson | IH35W | 97.280 | 32.4869 | R1 | 97.3117 | 32.5353 | L1 | 97.3103 | 32.5294 | L1 | | | | | | | | | |
| 2031 | Tarrant | IH820 | 97.250 | 32.8403 | L1 | 97.2581 | 32.84 | L1 | 97.2936 | 32.8397 | L1 | 97.2969 | 32.8397 | L1 | | | | | | |
| 2032 | Tarrant | IH30 | 97.539 | 32.7208 | R1 | 97.4928 | 32.7342 | R1 | 97.4581 | 32.7381 | R1 | | | | | | | | | |
| 2041 | Tarrant | US287 | | | | | | | | | | | | | | | | | | |
| 2044 | Wise | US287 | | | | | | | | | | | | | | | | | | |
| 2046 | Tarrant | SH121 | | | | | | | | | | | | | | | | | | |
| 2049 | Tarrant | US287 | 99.687 | 34.2808 | L1 | 99.6672 | 34.2736 | R1 | 99.6444 | 34.2681 | R2 | 99.6394 | 34.2689 | R1 | | | | | | |
| 2050 | Tarrant | US287 | 99.566 | 34.2553 | L1 | 99.5467 | 34.2517 | R1 | | | | | | | | | | | | |
| 2051 | Parker | IH20 | 98.074 | 32.6297 | L1 | 98.0808 | 32.625 | R1 | | | | | | | | | | | | |
| 2059 | Erath | IH20 | 98.409 | 32.5047 | L1 | 98.4244 | 32.5067 | R1 | | | | | | | | | | | | |
| 2060 | Tarrant | IH20 | 97.205 | 32.6719 | L1 | 97.2103 | 32.6706 | L1 | | | | | | | | | | | | |
| 2075 | Tarrant | IH35W | 97.322 | 32.6481 | L1 | 97.3217 | 32.6311 | L1 | 97.3197 | 32.6019 | L1 | 97.3197 | 32.5969 | L1 | | | | | | |
| 2098 | Tarrant | IH820 | 97.381 | 32.8289 | L1 | 97.4019 | 32.8192 | L1 | | | | | | | | | | | | |
| 3001 | Wichita | IH44 | 98.53 | 33.9603 | R1 | 98.5325 | 33.9728 | R1 | 98.555 | 34.095 | L1 | | | | | | | | | |
| 3004 | Wichita | IH44 | 98.557 | 34.0656 | R1 | | | | 98.5578 | 34.0722 | L1 | 98.5575 | 34.0628 | L1 | 98.557 | 34.0597 | R1 | | | |
| 3010 | Wichita | US287 | 98.936 | 34.0444 | R1 | 98.9169 | 34.0436 | R1 | 98.9019 | 34.0408 | R1 | 98.8297 | 33.9925 | R1 | 98.918 | 34.045 | L1 | 98.883 | 34.0386 | L1 |
| 3011 | Wilbarger | US287 | 98.959 | 34.0489 | L1 | 98.9653 | 34.0506 | L1 | 98.9686 | 34.0561 | L1 | 98.9575 | 34.0475 | R1 | | | | | | |
| 3018 | Montague | US287 | 97.887 | 33.5681 | R1 | 97.8653 | 33.5536 | R1 | 97.8228 | 33.5228 | R1 | 97.8211 | 33.52 | R1 | 100.36 | 34.4958 | L1 | 100.4 | 34.5133 | L1 |
| 3022 | Wilbarger | US287 | 99.111 | 34.1167 | L2 | 99.0864 | 34.1056 | L1 | 99.0842 | 34.1044 | L1 | 99.1022 | 34.1125 | L1 | 99.026 | 34.0786 | L1 | | | |

| Project | County | Hwy | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD6 |
| 4002 | Potter | IH40 | 101.81 | 35.1928 | L1 | 101.819 | 35.1928 | L1 | | | | | | | | | | | | |
| 4005 | Carson | IH40 | 101.53 | 35.2208 | R1 | 101.518 | 35.2214 | L1 | | | L1 | | | | | | | | | |
| 4009 | Potter | IH40 | 101.9 | 35.1908 | L1 | 101.905 | 35.1906 | L1 | 101.916 | 35.1872 | L1 | 101.928 | 35.1858 | L1 | 101.97 | 35.1875 | L1 | | | |
| 4010 | Potter | IH40 | 101.64 | 35.2067 | L1 | 101.686 | 35.1994 | L1 | 101.706 | 35.1964 | L1 | | | | | | | | | |
| 4011 | Potter | IH40 | 102.02 | 35.1903 | R1 | 102.01 | 35.19 | R1 | 102.086 | 35.1917 | L1 | | | | | | | | | |
| 4021 | Carson | IH40 | | | | | | | | | | | | | | | | | | |
| 4022 | Gray | IH40 | 101.07 | 35.1939 | L1 | 101.079 | 35.1961 | L1 | | | | | | | | | | | | |
| 4023 | Gray | IH40 | 100.91 | 35.1825 | L1 | 100.909 | 35.1831 | L1 | 100.931 | 35.1832 | L1 | | | | | | | | | |
| 4025 | Gray | IH40 | 100.82 | 35.185 | L1 | 100.824 | 35.1817 | L1 | 100.846 | 35.1814 | L1 | 100.859 | 35.1833 | L1 | | | | | | |
| 4027 | Gray | IH40 | | | | | | | | | | | | | | | | | | |
| 4028 | Gray | IH40 | | | | | | | | | | | | | | | | | | |
| 4100 | Error | | | | | | | | | | | | | | | | | | | |
| 5001 | Lubbock | IH27 | | | | | | | | | | | | | | | | | | |
| 5002 | Hale | IH27 | | | | | | | | | | | | | | | | | | |
| 5003 | Lubbock | IH27 | | | | | | | | | | | | | | | | | | |
| 5005 | Hale | IH27 | 101.83 | 34.0764 | R1 | 101.779 | 34.1067 | R1 | | | | | | | | | | | | |
| 5006 | Hale | IH27 | | | | | | | | | | | | | | | | | | |
| 5007 | Hale | IH27 | 101.84 | 34.0728 | L1 | 101.844 | 34.0658 | L1 | 101.835 | 34.0767 | L1 | | | | | | | | | |
| 5008 | Hale | IH27 | 101.71 | 34.2569 | R1 | 101.71 | 34.2597 | L1 | | | | | | | | | | | | |
| 5009 | Swisher | IH27 | 101.74 | 34.3283 | R1 | 101.734 | 34.3169 | L1 | | | | | | | | | | | | |
| 9001 | Falls | IH35 | 97.268 | 31.2669 | R1 | 97.2669 | 31.27 | R1 | 97.2256 | 31.2811 | R1 | 97.2556 | 31.2858 | R1 | 97.258 | 31.2839 | L1 | | | |
| 9002 | McLennan | IH35 | 97.248 | 31.3014 | R1 | 97.2431 | 31.3103 | R1 | 97.2311 | 31.3244 | R1 | | | L1 | | | L1 | 97.242 | 31.3125 | L1 |
| 9004 | McLennan | IH35 | 97.134 | 31.5261 | L1 | 97.1347 | 31.5233 | L1 | 97.1442 | 31.5039 | R1 | 97.1381 | 31.5158 | R1 | | | | | | |
| 9102 | Error | | | | | | | | | | | | | | | | | | | |
| 12123 | Error | | | | | | | | | | | | | | | | | | | |
| 12439 | Error | | | | | | | | | | | | | | | | | | | |
| 12440 | Error | | | | | | | | | | | | | | | | | | | |
| 12441 | Error | | | | | | | | | | | | | | | | | | | |
| 12443 | Error | | | | | | | | | | | | | | | | | | | |
| 12444 | Missing | | | | | | | | | | | | | | | | | | | |
| 12447 | Errir | | | | | | | | | | | | | | | | | | | |
| 12500 | HARRIS | SH225 | | | | | | | | | | | | | | | | | | |
| 12501 | HARRIS | SH6 | | | | | | | | | | | | | | | | | | |



| Project | County | Hwy | Section 1 Lat | Section 1 Lon | Section 1 LD | Section 2 Lat | Section 2 Lon | Section 2 LD | Section 3 Lat | Section 3 Lon | Section 3 LD | Section 4 Lat | Section 4 Lon | Section 4 LD | Section 5 Lat | Section 5 Lon | Section 5 LD | Section 6 Lat | Section 6 Lon | LD6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12502 | HARRIS | SH6 | | | | | | | | | | | | | | | | | | |
| 12503 | HARRIS | SH6 | | | | | | | | | | | | | | | | | | |
| 12504 | HARRIS | SH6 | | | | | | | | | | | | | | | | | | |
| 12505 | HARRIS | BW8 | | | | | | | | | | | | | | | | | | |
| 12506 | HARRIS | BW8 | | | | | | | | | | | | | | | | | | |
| 12507 | HARRIS | IH45 | | | | | | | | | | | | | | | | | | |
| 12508 | HARRIS | IH45 | | | | | | | | | | | | | | | | | | |
| 12901 | Harris | BE8 | 95.376 | 29.9386 | R1 | 95.3725 | 29.9386 | R1 | 95.3622 | 29.9392 | R1 | 95.3653 | 29.9392 | R1 | | | | | | |
| 12902 | Harris | BE8 | 95.559 | 29.9386 | R1 | 95.3875 | 29.9389 | R1 | | | | | | | | | | | | |
| 12903 | Harris | BE8 | | | | | | | | | | | | | | | | | | |
| 12904 | Harris | BE8 | | | | | | | | | | | | | | | | | | |
| 12905 | Harris | BE8 | | | | | | | | | | | | | | | | | | |
| 12906 | Harris | BW8 | 95.563 | 29.8006 | A1 | | | | | | | | | | | | | | | |
| 12907 | Harris | BW8 | 95.564 | 29.8006 | X1 | | | | | | | | | | | | | | | |
| 12908 | Harris | BW8 | 95.564 | 29.8583 | X1 | | | | | | | | | | | | | | | |
| 12909 | Harris | BW8 | 95.563 | 29.8578 | A1 | | | | | | | | | | | | | | | |
| 12920 | Missing | | | | | | | | | | | | | | | | | | | |
| 12925 | Missing | | | | | | | | | | | | | | | | | | | |
| 12996 | Missing | | | | | | | | | | | | | | | | | | | |
| 12997 | Missing | | | | | | | | | | | | | | | | | | | |
| 12998 | Missing | | | | | | | | | | | | | | | | | | | |
| 12999 | Missing | | | | | | | | | | | | | | | | | | | |
| 13001 | Colorado | IH10 | | | | | | | | | | | | | | | | | | |
| 13002 | Colorado | IH10 | | | | | | | | | | | | | | | | | | |
| 13007 | Colorado | IH10 | | | | | | | | | | | | | | | | | | |
| 13009 | Victoria | US77 | 97.043 | 28.7128 | R1 | 97.0447 | 28.7094 | L1 | | | | | | | | | | | | |
| 13013 | Fayette | IH10 | | | | | | | | | | | | | | | | | | |
| 13015 | Fayette | IH10 | | | | | | | | | | | | | | | | | | |
| 13018 | Victoria | US59 | | | | | | | | | | | | | | | | | | |
| 13019 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13020 | Gonzales | IH10 | | | | | | | | | | | | | | | | | | |
| 13021 | Gonzales | IH10 | | | | | | | | | | | | | | | | | | |
| 13023 | Wharton | US59 | | | | | | | | | | | | | | | | | | |

| | | | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project | County | Hwy | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD6 |
| 13024 | Wharton | US59 | | | | | | | | | | | | | | | | | | |
| 13028 | Wharton | US59 | | | | | | | | | | | | | | | | | | |
| 13029 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13030 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13031 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13032 | Jackson | US59 | | | | | | | | | | | | | | | | | | |
| 13101 | Missing | | | | | | | | | | | | | | | | | | | |
| 13103 | Missing | | | | | | | | | | | | | | | | | | | |
| 13104 | Missing | | | | | | | | | | | | | | | | | | | |
| 15015 | Missing | | | | | | | | | | | | | | | | | | | |
| 15032 | Bexar | US281 | | | | 98.4836 | 29.4508 | R1 | | | | | | | | | | | | |
| 15033 | Bexar | US281 | | | | | | | | | | | | | | | | | | |
| 15036 | Bexar | US281 | 98.474 | 29.4642 | R1 | 98.4822 | 29.4997 | R1 | 98.4839 | 29.4944 | R1 | | | | | | | | | |
| 15901 | Bexar | IH35 | 98.386 | 29.5356 | R1 | | | | | | | | | | | | | | | |
| 15902 | Bexar | IH35 | 98.398 | 29.5108 | R1 | 98.3986 | 29.5053 | R1 | | | | | | | | | | | | |
| 15903 | Bexar | IH410 | | | | | | | | | | | | | | | | | | |
| 15911 | Bexar | IH35 | | | | | | | | | | | | | | | | | | |
| 15912 | Bexar | IH35 | | | | | | | | | | | | | | | | | | |
| 17002 | Walker | IH45 | 95.939 | 31.0367 | R1 | 95.7556 | 30.8661 | L1 | 95.7358 | 30.8494 | L1 | 95.7328 | 30.8467 | L1 | 95.725 | 30.8414 | L1 | 95.714 | 30.8317 | L1 |
| 17003 | Leon | IH45 | 95.713 | 30.8319 | R1 | 95.9628 | 31.0992 | R1 | 95.9631 | 31.0992 | R1 | 95.9853 | 31.16 | R1 | 95.986 | 31.1656 | R1 | 95.989 | 31.1711 | R1 |
| 17004 | Madison | IH45 | 96.232 | 31.2836 | L1 | 95.9503 | 31.0603 | L1 | 95.9486 | 31.0564 | L1 | 95.9467 | 31.0483 | L1 | 95.945 | 31.0453 | L1 | 95.933 | 31.0275 | L1 |
| 17007 | Leon | IH45 | 96.018 | 31.3672 | L1 | 96.0183 | 31.3672 | L1 | 96.0183 | 31.3672 | L1 | 96.0164 | 31.3631 | L1 | 96.014 | 31.3514 | L1 | 96.012 | 31.3433 | L1 |
| 17011 | Brazos | SH6 | | | | | | | | | | | | | | | | | | |
| 18034 | | | | | | | | | | | | | | | | | | | | |
| 18054 | Dallas | IH30 | 96.735 | 32.7919 | R1 | 96.7519 | 32.7914 | R1 | | | | | | | | | | | | |
| 18062 | Dallas | IH30 | 96.8 | 32.7717 | R1 | | | | | | | | | | | | | | | |
| 18066 | Dallas | IH35E | 96.823 | 32.6928 | R1 | 96.88 | 32.7006 | L1 | | | | | | | | | | | | |
| 18071 | Denton | IH35W | | | | | | | | | | | | | | | | | | |
| 18072 | Dallas | IH635 | | | | | | | 96.8569 | 32.9172 | L1 | 96.8469 | 32.9217 | L1 | | | | | | |
| 18073 | Dallas | IH635 | 96.838 | 32.9256 | L1 | | | | | | | | | | | | | | | |
| 18079 | Dallas | IH635 | 96.746 | 32.9183 | L1 | | | | 96.9697 | 32.9183 | R1 | | | | | | | | | |
| 18080 | Denton | IH35W | | | | | | | | | | | | | | | | | | |
| 18084 | | | | | | | | | | | | | | | | | | | | |

| | | | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project | County | Hwy | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD6 |
| 18086 | Denton | IH35W | | | | | | | | | | | | | | | | | | |
| 18088 | Dallas | IH635 | | | | | | | | | | | | | | | | | | |
| 18093 | Dallas | IH45 | | | | | | | | | | | | | | | | | | |
| 18106 | Dallas | IH20 | 96.881 | 32.6553 | R1 | 96.8472 | 32.6447 | L1 | 96.8631 | 32.6478 | L1 | | | | | | | | | |
| 18107 | Dallas | IH20 | 96.989 | 32.6725 | R1 | 96.9925 | 32.6731 | R1 | 97.0244 | 32.6764 | L1 | | | | | | | | | |
| 19001 | Harrison | IH20 | | | | | | | | | | | | | | | | | | |
| 19006 | Harrison | IH20 | | | | | | | | | | | | | | | | | | |
| 19010 | Bowie | IH30 | | | | | | | | | | | | | | | | | | |
| 19019 | Bowie | IH30 | | | | | | | | | | | | | | | | | | |
| 20003 | Jefferson | SH73 | | | | | | | | | | | | | | | | | | |
| 20009 | Jefferson | IH10 | | | | | | | | | | | | | | | | | | |
| 20011 | Jefferson | US96 | | | | | | | | | | | | | | | | | | |
| 20023 | Jefferson | US69 | | | | | | | | | | | | | | | | | | |
| 24003 | ElPaso | IH10 | 106.48 | 31.7681 | R5 | | | | | | | | | | | | | | | |
| 24004 | ElPaso | IH10 | 106.47 | 31.7747 | R5 | | | | | | | | | | | | | | | |
| 24006 | ElPaso | IH10 | 106.50 | 31.7603 | L4 | 106.498 | 31.7594 | L4 | | | | | | | | | | | | |
| 24007 | ElPaso | IH10 | 106.51 | 31.7703 | L4 | 106.518 | 31.785 | L4 | 106.52 | 31.7986 | L4 | 106.527 | 31.8089 | L3 | | | | | | |
| 24009 | Culberson | IH10 | 104.21 | 31.065 | R2 | 104.186 | 31.0633 | R2 | 104.197 | 31.065 | L2 | | | | | | | | | |
| 24010 | JeffDavis | IH10 | 104.09 | 31.0833 | L2 | 104.108 | 31.0819 | L2 | 104.123 | 31.0744 | L2 | 104.148 | 31.0644 | L2 | 104.07 | 31.0839 | R2 | 104.15 | 31.0628 | L2 |
| 24011 | Culberson | IH10 | 104.25 | 31.0656 | R2 | | | | | | | | | | | | | | | |
| 24012 | Culberson | IH10 | | | | 104.395 | 31.0722 | R2 | | | | | | | | | | | | |
| 24014 | Culberson | IH10 | 104.6 | 31.0544 | R2 | 104.568 | 31.0561 | R2 | 104.524 | 31.0597 | R2 | 104.414 | 31.0736 | R2 | | | | | | |
| 24015 | Culberson | IH10 | 104.61 | 31.0531 | R2 | | | | | | | | | | | | | | | |
| 24020 | Culberson | IH10 | 104.8 | 31.0428 | R2 | | | | | | | | | | | | | | | |
| 24022 | Culberson | IH10 | 104.86 | 31.0356 | R2 | 104.837 | 31.0364 | L2 | 104.866 | 31.0372 | L2 | | | | | | | | | |
| 24023 | Culberson | IH10 | 104.83 | 31.0378 | R2 | | | | | | | | | | | | | | | |
| 24028 | ElPaso | US54 | 106.58 | 31.9397 | R1 | 106.583 | 31.9208 | R1 | 106.583 | 31.9131 | R1 | | | | | | | | | |
| 24091 | | | 105.50 | 31.2097 | L2 | 105.502 | 31.2094 | L2 | | | | | | | | | | | | |
| 24100 | Missing | | | | | | | | | | | | | | | | | | | |
| 24101 | Missing | | | | | | | | | | | | | | | | | | | |
| 24200 | Missing | | | | | | | | | | | | | | | | | | | |
| 24300 | Missing | | | | | | | | | | | | | | | | | | | |

| | | | Section 1 | | | Section 2 | | | Section 3 | | | Section 4 | | | Section 5 | | | Section 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project | County | Hwy | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD | Lat | Lon | LD6 |

# Appendix E.
# MS Access Report Construction & Environmental Variables

Center for Transportation Research
The University of Texas at Austin

# Texas Rigid Pavement Database
# Construction and Climate Conditions

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1001 | Hopkins | IH30 | 10 | 2 | 23 | 1964.00 | 8 | 6.0 | (50) | 86.7 | | | | 2 | H | 2 | 12.8 | 53.3 | 6.08 | 0.063 | 44.2 |
| 1002 | Hopkins | IH30 | 610 | 1 | 3 | 1964.42 | 8 | 1.6 | () | | | | | 2 | H | 2 | 12.8 | 90.5 | 16 | 0.119 | 44.2 |
| 1003 | Hopkins | IH30 | 610 | 1 | 4 | 1965.00 | 8 | 6.2 | (13) | 86.7 | | | | 2 | H | 2 | 12.8 | 56.8 | 10.04 | 0.061 | 44.2 |
| 1004 | Franklin | IH30 | 610 | 2 | 4 | 1965.99 | 8 | 5.6 | (23) | 85.3 | | | | 2 | H | 2 | 12.8 | 60.2 | 10.04 | 0.058 | 44.2 |
| 1005 | Franklin | IH30 | 610 | 2 | 4 | 1965.00 | 8 | 5.0 | (23) | 85.3 | | | | 2 | L | 2 | 12.8 | 56.8 | 10.04 | 0.061 | 44.2 |
| 1008 | Grayson | US75 | 47 | 13 | 5 | 1967.67 | 8 | 8.8 | (11) | 87.6 | | | | 2 | L | 4 | 12.8 | 84 | 12.92 | 0.091 | 40.1 |
| 1011 | Grayson | US75 | 47 | 13 | 5 | 1969.83 | 8 | 0.4 | (11) | 87.6 | | | | 2 | L | 4 | 12.8 | 75.8 | 14 | 0.069 | 40.1 |
| 1012 | Lamar | US271 | 136 | 7 | 30 | 1971.42 | 8 | 1.8 | () | | | | | 1 | H | 3 | 12.8 | 88.5 | 16 | 0.115 | 44.2 |
| 1013 | Lamar | US271 | 136 | 8 | 23 | 1971.00 | 8 | 10.0 | () | | | | | 1 | H | 3 | 12.8 | 61.35 | 15.1 | 0.068 | 44.2 |
| 1015 | Grayson | US82 | 45 | 19 | 4 | 1975.00 | 8 | 3.2 | () | | | | | 2 | L | 3 | 12.8 | 57 | 12.02 | 0.062 | 40.1 |
| 2002 | Parker | IH20 | 8 | 3 | 18 | 1949.50 | 8 | 11.7 | (48) | 78.8 | | | | 3 | L | 3 | 12.8 | 93.1 | 12.9 | 0.113 | 32.3 |
| 2012 | Tarrant | IH30 | 1068 | 1 | 22 | 1960.25 | 8 | 0.3 | (67/86) | 71.6 | 74.8 | | | 3 | L | 3 | 12.8 | 74.75 | 12.9 | 0.094 | 32.3 |
| 2018 | Tarrant | IH820 | 8 | 13 | 6 | 1963.33 | 8 | 2.3 | (128) | 87.3 | | | | 3 | H | 4 | 12.8 | 85.6 | 6.08 | 0.127 | 32.3 |
| 2019 | Tarrant | US287 | 172 | 6 | 7 | 1963.58 | 8 | 1.8 | () | | | | | 3 | L | 3 | 12.8 | 96.2 | 6.08 | 0.141 | 32.3 |
| 2020 | Tarrant | IH820 | 8 | 13 | 7 | 1963.75 | 8 | 3.4 | (128) | 87.3 | | | | 3 | H | 4 | 12.8 | 82.3 | 6.08 | 0.09 | 32.3 |
| 2021 | Tarrant | IH820 | 8 | 13 | 9 | 1963.75 | 8 | 4.6 | (128) | 87.3 | | | | 2 | H | 4 | 12.8 | 82.3 | 6.08 | 0.09 | 32.3 |
| 2022 | Tarrant | IH30 | 1068 | 1 | 36 | 1964.08 | 8 | 1.2 | () | | | | | 2 | L | 3 | 12.8 | 53.3 | 6.08 | 0.063 | 32.3 |
| 2023 | Tarrant | SH121 | 363 | 3 | 4 | 1964.17 | 8 | 0.8 | (29) | 85.9 | | | | 2 | L | 3 | 12.8 | 66.3 | 16 | 0.081 | 32.3 |
| 2024 | Tarrant | US287 | 172 | 6 | 12 | 1964.58 | 8 | 0.9 | () | | | | | 3 | L | 3 | 12.8 | 94.8 | 16 | 0.136 | 32.3 |
| 2026 | Tarrant | IH820 | 8 | 13 | 13 | 1965.58 | 8 | 2.1 | (77) | 75.2 | 78.6 | | | 3 | H | 4 | 12.8 | 93 | 10.04 | 0.124 | 32.3 |
| 2027 | Tarrant | IH820 | 8 | 14 | 2 | 1965.58 | 8 | 1.9 | (61) | 75.2 | | | | 3 | H | 4 | 12.8 | 93 | 10.04 | 0.124 | 32.3 |
| 2028 | Johnson | IH35W | 14 | 3 | 19 | 1965.92 | 8 | 8.9 | () | | | | | 2 | H | 4 | 12.8 | 60.2 | 10.04 | 0.06 | 36.1 |
| 2029 | Tarrant | US287 | 172 | 6 | 18 | 1966.17 | 8 | 0.5 | () | | | | | 3 | L | 4 | 12.8 | 64.8 | 17.06 | 0.086 | 32.3 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2030 | Tarrant | IH35W | 14 | 16 | 57 | 1966.33 | 8 | 2.8 | () | | | | | 2 | L | 4 | 12.8 | 80.5 | 17.06 | 0.091 | 32.3 |
| 2031 | Tarrant | IH820 | 8 | 14 | 3 | 1966.67 | 8 | 3.4 | (62) | 86.6 | | | | 1 | L | 3 | 12.8 | 83.6 | 17.06 | 0.078 | 32.3 |
| 2032 | Tarrant | IH30 | 1068 | 1 | 46 | 1967.08 | 8 | 4.8 | (114) | 82.0 | | | | 2 | L | 4 | 12.8 | 57.6 | 12.92 | 0.071 | 32.3 |
| 2033 | Tarrant | IH35W | 14 | 16 | 65 | 1967.25 | 8 | 3.6 | () | | | | | 2 | L | 4 | 12.8 | 78.6 | 12.92 | 0.099 | 32.3 |
| 2034 | Tarrant | IH35W | 81 | 12 | 1 | 1967.25 | 8 | 0.5 | () | | | | | 2 | L | 4 | 12.8 | 78.6 | 12.92 | 0.099 | 32.3 |
| 2035 | Tarrant | SH121 | 364 | 1 | 7 | 1967.50 | 8 | 0.6 | (59) | 86.9 | | | | 2 | L | 1 | 12.8 | 91.5 | 12.92 | 0.111 | 32.3 |
| 2036 | Tarrant | SH121 | 364 | 1 | 12 | 1970.83 | 8 | 2.4 | (59) | 86.9 | | | | 2 | L | 1 | 12.8 | 75.06 | 15.08 | 0.07 | 32.3 |
| 2038 | Tarrant | SH121 | 363 | 3 | 9 | 1967.67 | 8 | 1.8 | (29) | 85.9 | | | | 3 | L | 1 | 12.8 | 84.05 | 12.92 | 0.091 | 32.3 |
| 2039 | Tarrant | IH35W | 81 | 12 | 2 | 1967.67 | 8 | 6.9 | () | | | | | 2 | L | 1 | 12.8 | 84.05 | 12.92 | 0.091 | 32.3 |
| 2040 | Tarrant | SH121 | 363 | 3 | 11 | 1968.50 | 8 | 2.8 | (29) | 85.9 | | | | 2 | L | 1 | 12.8 | 89.4 | 17.06 | 0.08 | 32.3 |
| 2041 | Tarrant | US287 | 172 | 6 | 26 | 1970.25 | 8 | 1.5 | () | | | | | 2 | H | 1 | 12.8 | 72 | 15.08 | 0.071 | 32.3 |
| 2043 | Tarrant | SH121 | 364 | 1 | 13 | 1972.08 | 8 | 1.6 | (59) | 86.9 | | | | 2 | L | 1 | 12.8 | 59.5 | 10.04 | 0.06 | 32.3 |
| 2044 | Wise | US287 | 13 | 8 | 44 | 1969.25 | 8 | 10.3 | (64) | 80.8 | | | | 2 | L | 1 | 12.8 | 70.8 | 14 | 0.06 | 32.3 |
| 2045 | Tarrant | IH820 | 8 | 14 | 11 | 1969.99 | 8 | 1.3 | () | | | | | 2 | L | 1 | 12.8 | 58.95 | 14 | 0.055 | 32.3 |
| 2046 | Tarrant | SH121 | 363 | 3 | 12 | 1970.25 | 8 | 2.8 | (29) | 85.9 | | | | 1 | L | 1 | 12.8 | 72 | 15.08 | 0.071 | 32.3 |
| 2047 | Parker | IH20 | 314 | 1 | 32 | 1970.42 | 8 | 0.5 | () | | | | | 2 | L | 1 | 12.8 | 87.5 | 15.08 | 0.092 | 32.3 |
| 2048 | Parker | IH20 | 314 | 7 | 5 | 1970.42 | 8 | 11.6 | () | | | | | 2 | L | 1 | 12.8 | 87.5 | 15.08 | 0.092 | 32.3 |
| 2049 | Tarrant | US287 | 14 | 15 | 2 | 1971.42 | 8 | 7.2 | () | | | | | 2 | L | 1 | 12.8 | 88.5 | 16 | 0.115 | 32.3 |
| 2050 | Tarrant | US287 | 14 | 16 | 87 | 1971.42 | 8 | 2.4 | () | | | | | 2 | L | 1 | 12.8 | 88.5 | 16 | 0.115 | 32.3 |
| 2051 | Parker | IH20 | 314 | 2 | 6 | 1971.42 | 8 | 1.2 | () | | | | | 2 | L | 2 | 12.8 | 88.5 | 16 | 0.115 | 32.3 |
| 2052 | Parker | IH20 | 314 | 1 | 33 | 1971.50 | 8 | 11.0 | () | | | | | 2 | L | 1 | 12.8 | 90.6 | 16 | 0.1 | 32.3 |
| 2053 | Wise | US287 | 13 | 8 | 51 | 1971.83 | 8 | 3.0 | (78) | 77.8 | 87.5 | | | 2 | L | 1 | 12.8 | 76.8 | 16 | 0.065 | 32.3 |
| 2054 | PaloPinto | IH20 | 314 | 2 | 20 | 1972.08 | 8 | 7.9 | () | | | | | 2 | L | 1 | 12.8 | 59.5 | 10.04 | 0.06 | 32.3 |
| 2056 | Tarrant | IH20 | 2374 | 5 | 2 | 1972.17 | 8 | 0.4 | () | | | | | 2 | H | 1 | 12.8 | 72.9 | 10.04 | 0.105 | 32.3 |
| 2058 | PaloPinto | IH20 | 314 | 3 | 17 | 1972.33 | 8 | 10.0 | () | | | | | 2 | L | 1 | 12.8 | 92.3 | 10.04 | 0.102 | 32.3 |
| 2059 | Erath | IH20 | 314 | 4 | 15 | 1972.33 | 8 | 5.8 | () | | | | | 2 | L | 1 | 12.8 | 92.3 | 10.04 | 0.102 | 32.0 |
| 2060 | Tarrant | IH20 | 2374 | 5 | 3 | 1973.25 | 8 | 1.8 | () | | | | | 2 | H | 1 | 12.8 | 72.83 | 17.06 | 0.085 | 32.3 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | Overlay Dates 2nd | Overlay Dates 3rd | Overlay Dates 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | Construction LowT | Construction Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2063 | Tarrant | SH114 | 353 | 3 | 27 | 1973.83 | 8 | 2.3 | () | | | | | 2 | H | 1 | 12.8 | 76.4 | 17.06 | 0.055 | 32.3 |
| 2066 | Tarrant | SH360 | 2266 | 2 | 41 | 1985.25 | 8 | 1.7 | () | | | | | 2 | H | 1 | 12.8 | 76.9 | 17.06 | 0.096 | 32.3 |
| 2068 | Tarrant | IH20 | 2374 | 5 | 4 | 1974.92 | 8 | 4.3 | () | | | | | 2 | L | 1 | 12.8 | 59.2 | 19.04 | 0.062 | 32.3 |
| 2069 | Tarrant | US287 | 172 | 9 | 3 | 1975.50 | 8 | 5.7 | () | | | | | 3 | L | 1 | 12.8 | 92.6 | 12.02 | 0.094 | 32.3 |
| 2070 | Tarrant | IH20 | 2374 | 5 | 5 | 1975.83 | 8 | 5.3 | (14) | 80.7 | | | | 3 | H | 1 | 12.8 | 78.9 | 12.02 | 0.094 | 32.3 |
| 2073 | Tarrant | SP35 | 364 | 5 | 4 | 1972.08 | 8 | 3.2 | (23,24) | 86.9 | | | | 3 | L | 1 | 12.8 | 59.5 | 10.04 | 0.06 | 32.3 |
| 2074 | Tarrant | SH360 | 2266 | 2 | 25 | 1976.99 | 8 | 1.2 | (47) | 87.4 | | | | 3 | L | 1 | 12.8 | 52.5 | 12.92 | 0.05 | 32.3 |
| 2075 | Tarrant | IH35W | 14 | 2 | 20 | 1976.92 | 8 | 6.6 | () | | | | | 2 | H | 1 | 12.8 | 52.5 | 12.92 | 0.05 | 32.3 |
| 2078 | Wise | US287 | 13 | 8 | 48 | 1972.33 | 8 | 3.6 | () | | | | | 2 | L | 1 | 12.8 | 80.4 | 10.04 | 0.105 | 32.3 |
| 2089 | Tarrant | US287 | 172 | 9 | 6 | 1982.33 | 8 | 4.0 | () | | | | | 3 | H | 1 | 12.8 | 92.3 | 23 | 0.118 | 32.3 |
| 2093 | Tarrant | IH820 | 8 | 15 | 4 | 1975.75 | 8 | 1.3 | () | | | | | 2 | H | 1 | 12.8 | 78.9 | 12.02 | 0.094 | 32.3 |
| 2094 | Tarrant | IH820 | 8 | 15 | 6 | 1982.17 | 10 | 1.8 | () | | | | | 2 | L | 1 | 12.8 | 65.3 | 14 | 0.082 | 32.3 |
| 2096 | Tarrant | IH820 | 8 | 15 | 8 | 1976.17 | 8 | 2.1 | () | | | | | 2 | L | 1 | 12.8 | 70.9 | 12.92 | 0.094 | 32.3 |
| 2097 | Tarrant | IH820 | 8 | 14 | 31 | 1978.33 | 8 | 1.6 | () | | | | | 2 | L | 1 | 12.8 | 84.1 | 14 | 0.106 | 32.3 |
| 2098 | Tarrant | IH820 | 8 | 14 | 22 | 1976.58 | 8 | 3.8 | () | | | | | 2 | L | 1 | 12.8 | 91.7 | 12.92 | 0.085 | 32.3 |
| 3001 | Wichita | IH44 | 156 | 7 | 2/3 | 1964.67 | 8 | 3.0 | (41) | 87.5 | | | | 2 | L | 2 | 6.5 | 86.4 | 9 | 0.121 | 28.3 |
| 3003 | Wichita | IH44 | 156 | 7 | 4 | 1964.67 | 8 | 1.8 | (41) | 87.5 | | | | 2 | L | 2 | 6.5 | 86.4 | 9 | 0.121 | 28.3 |
| 3004 | Wichita | IH44 | 156 | 7 | 5 | 1964.99 | 8 | 5.0 | (41) | 87.5 | | | | 2 | L | 1 | 6.5 | 26.7 | 9 | 0.063 | 28.3 |
| 3005 | Wichita | IH44 | 156 | 7 | 6 | 1964.99 | 8 | 1.5 | (41) | 87.5 | | | | 2 | L | 1 | 6.5 | 26.7 | 9 | 0.063 | 28.3 |
| 3006 | Wichita | US287 | 44 | 1 | 34 | 1967.42 | 8 | 2.9 | (62) | 87.1 | | | | 2 | L | 2 | 6.5 | 87.5 | 9 | 0.133 | 28.3 |
| 3007 | Wichita | US287 | 44 | 1 | 35 | 1967.17 | 8 | 0.9 | () | | | | | 2 | L | 2 | 6.5 | 72.4 | 9 | 0.138 | 28.3 |
| 3008 | Clay | US287 | 44 | 2 | 27/28 | 1967.92 | 8 | 1.4 | (58) | 87.1 | | | | 2 | L | 2 | 6.5 | 57.4 | 9 | 0.064 | 31.8 |
| 3010 | Wichita | US287 | 43 | 8 | 22 | 1968.83 | 8 | 9.1 | () | | | | | 2 | L | 2 | 6.5 | 76 | 10 | 0.1 | 28.3 |
| 3011 | Wilbarger | US287 | 43 | 7 | 15 | 1968.83 | 8 | 0.8 | () | | | | | 2 | L | 2 | 6.5 | 76 | 10 | 0.1 | 24.5 |
| 3012 | Wichita | US281 | 249 | 1 | 12 | 1968.75 | 8 | 3.7 | () | | | | | 2 | L | 2 | 6.5 | 76 | 10 | 0.1 | 28.3 |
| 3014 | Wilbarger | US287 | 43 | 5 | 43 | 1969.75 | 8 | 0.9 | () | | | | | 2 | L | 1 | 6.5 | 73 | 12.92 | 0.079 | 25.5 |
| 3015 | Wilbarger | US70 | 146 | 7 | 8 | 1969.75 | 8 | 1.4 | () | | | | | 2 | L | 1 | 6.5 | 73 | 12.92 | 0.079 | 25.5 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3016 | Wichita | US287 | 43 | 8 | 26 | 1970.75 | 8 | 5.1 | (39/40/46/48) | 78.0 | 81.0 | 82.0 | 85.0 | 2 | L | 1 | 6.5 | 75.06 | 7 | 0.098 | 28.3 |
| 3017 | Montague | US287 | 13 | 5 | 17 | 1972.67 | 8 | 0.7 | () | | | | | 2 | L | 1 | 6.5 | 86.25 | 10 | 0.108 | 31.8 |
| 3018 | Montague | US287 | 13 | 5 | 18 | 1972.67 | 8 | 8.2 | () | | | | | 2 | L | 1 | 6.5 | 86.25 | 10 | 0.108 | 31.8 |
| 3019 | Clay | US287 | 224 | 1 | 16 | 1972.75 | 8 | 0.5 | () | | | | | 2 | H | 2 | 6.5 | 71.8 | 10 | 0.086 | 31.8 |
| 3020 | Clay | US287 | 224 | 1 | 17 | 1972.75 | 8 | 9.4 | (37) | 87.1 | | | | 2 | L | 2 | 6.5 | 71.8 | 10 | 0.086 | 31.8 |
| 3022 | Wilbarger | US287 | 43 | 7 | 23 | 1973.67 | 8 | 10.2 | (36) | 87.1 | | | | 2 | L | 2 | 6.5 | 84.3 | 12 | 0.093 | 25.5 |
| 4002 | Potter | IH40 | 275 | 1 | 11 | 1964.83 | 8 | 2.0 | (83) | 84.0 | | | | 1 | L | 4 | -2.2 | 70.75 | 1.95 | 0.0108 | 19.4 |
| 4003 | Potter | IH40 | 275 | 1 | 12 | 1965.92 | 8 | 1.1 | () | | | | | 1 | L | 2 | -2.2 | 53 | -5.1 | 0.06 | 19.4 |
| 4004 | Potter | IH40 | 275 | 1 | 21 | 1966.67 | 8 | 1.7 | () | | | | | 1 | L | 2 | -2.2 | 77 | 6.1 | 0.121 | 19.4 |
| 4005 | Carson | IH40 | 275 | 2 | 12 | 1966.92 | 8 | 7.9 | () | | | | | 1 | L | 3 | -2.2 | 59.7 | 6.1 | 0.084 | 19.4 |
| 4006 | Carson | IH40 | 275 | 3 | 15 | 1966.92 | 8 | 5.2 | () | | | | | 1 | L | 1 | -2.2 | 59.7 | 6.1 | 0.084 | 19.4 |
| 4007 | Potter | IH40 | 275 | 1 | 22 | 1966.99 | 8 | 5.0 | (83) | 84.0 | | | | 3 | L | 2 | -2.2 | 59.7 | 6.1 | 0.084 | 19.4 |
| 4008 | Potter | IH40 | 90 | 5 | 32 | 1969.08 | 8 | 0.6 | (41) | 69.5 | | | | 1 | L | 2 | -2.2 | 52.3 | 3 | 0.087 | 19.4 |
| 4009 | Potter | IH40 | 275 | 1 | 20 | 1969.08 | 8 | 4.4 | () | | | | | 1 | L | 2 | -2.2 | 52.3 | 3 | 0.087 | 19.4 |
| 4010 | Potter | IH40 | 275 | 1 | 31 | 1968.99 | 8 | 4.2 | (83/88) | 84.0 | 85.5 | | | 1 | L | 1 | -2.2 | 53.85 | 3 | 0.72 | 19.4 |
| 4011 | Potter | IH40 | 90 | 5 | 44 | 1972.50 | 8 | 7.0 | () | | | | | 1 | L | 2 | -2.2 | 84.3 | -0.05 | 0.145 | 19.4 |
| 4021 | Carson | IH40 | 275 | 4 | 26 | 1980.67 | 9 | 4.3 | () | | | | | 1 | L | 1 | -2.2 | 80.6 | -5.1 | 0.153 | 19.4 |
| 4022 | Gray | IH40 | 275 | 5 | 19 | 1978.00 | 9 | 1.3 | () | | | | | 1 | L | 1 | -2.2 | 43.5 | -5.1 | 0.065 | 21.9 |
| 4023 | Gray | IH40 | 275 | 8 | 18 | 1980.67 | 8 | 1.6 | () | | | | | 1 | L | 1 | -2.2 | 80.55 | -5.1 | 0.153 | 21.9 |
| 4024 | Gray | IH40 | 275 | 9 | 16/17 | 1978.92 | 8 | 0.7 | () | 81.0 | | | | 1 | L | 1 | -2.2 | 44.4 | -5.1 | 0.06 | 21.9 |
| 4025 | Gray | IH40 | 275 | 10 | 17 | 1978.00 | 8 | 2.2 | () | | | | | 1 | L | 1 | -2.2 | 43.5 | -5.1 | 0.065 | 21.9 |
| 4026 | Gray | IH40 | 275 | 11 | 38/39 | 1978.92 | 8 | 5.1 | () | 81.0 | | | | 1 | L | 1 | -2.2 | 44.4 | -5.1 | 0.06 | 21.9 |
| 4027 | Gray | IH40 | 275 | 11 | 42 | 1982.67 | 10 | 7.1 | () | | | | | 1 | L | 1 | -2.2 | 81.4 | 5 | 0.147 | 21.9 |
| 4028 | Gray | IH40 | 275 | 11 | 49 | 1984.67 | 10 | 4.7 | () | | | | | 1 | L | 1 | -2.2 | 77.1 | -2.95 | 0.118 | 21.9 |
| 4100 | Error | | | | | | | | | | | | | | | | | | | | |
| 5001 | Lubbock | IH27 | 67 | 7 | 59 | 1981.41 | 9 | 6.8 | () | | | | | 3 | L | 1 | 3.8 | 82.1 | 3.02 | 0.153 | 18.6 |
| 5002 | Hale | IH27 | 67 | 6 | 32 | 1981.50 | 9 | 8.2 | () | | | | | 1 | L | 1 | 3.8 | 89.5 | 3.02 | 0.144 | 21.2 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5003 | Lubbock | IH27 | 67 | 7 | 60 | 1982.17 | 9 | 7.7 | () | | | | | 3 | L | 1 | 3.8 | 65 | 1.05 | 0.121 | 18.6 |
| 5004 | Hale | IH27 | 67 | 6 | 33 | 1982.17 | 9 | 1.4 | () | | | | | 2 | L | 1 | 3.8 | 65 | 1.05 | 0.121 | 21.2 |
| 5005 | Hale | IH27 | 67 | 5 | 28 | 1982.17 | 9 | 5.2 | () | | | | | 1 | L | 4 | 3.8 | 65 | 1.05 | 0.121 | 21.2 |
| 5006 | Hale | IH27 | 67 | 6 | 34 | 1982.92 | 9 | 6.4 | () | | | | | 2 | L | 1 | 3.8 | 50.2 | 1.05 | 0.066 | 21.2 |
| 5007 | Hale | IH27 | 67 | 5 | 32 | 1982.92 | 9 | 1.5 | () | | | | | 2 | L | 1 | 3.8 | 50.2 | 1.05 | 0.066 | 21.2 |
| 5008 | Hale | IH27 | 67 | 4 | 27 | 1984.17 | 9 | 4.8 | () | | | | | 1 | L | 1 | 3.8 | 65.6 | 3.02 | 0.126 | 21.2 |
| 5009 | Swisher | IH27 | 67 | 3 | 39 | 1984.17 | 9 | 1.4 | () | | | | | 1 | L | 2 | 2.2 | 59.1 | -2.92 | 0.126 | 21.2 |
| 9001 | Falls | IH35 | 15 | 3 | 10 | 1960.17 | 8 | 1.8 | (22) | 78.4 | | | | 2 | L | 3 | 14.5 | 68.95 | 15.05 | 0.088 | 21.2 |
| 9002 | McLennan | IH35 | 15 | 2 | 18 | 1960.17 | 8 | 4.0 | (37) | 78.4 | | | | 2 | L | 3 | 14.5 | 68.95 | 15.05 | 0.088 | 31.6 |
| 9004 | McLennan | IH35 | 15 | 1 | 25 | 1964.99 | 8 | 1.9 | () | | | | | 1 | L | 4 | 14.5 | 64.9 | 20 | 0.073 | 31.6 |
| 9005 | McLennan | IH35 | 15 | 1 | 30 | 1965.58 | 8 | 0.6 | (108) | 81.7 | | | | 3 | L | 4 | 14.5 | 94.8 | 12.92 | 0.16 | 31.6 |
| 9006 | Hill | IH35 | 48 | 9 | 4 | 1966.25 | 8 | 7.4 | () | | | | | 3 | H | 3 | 14.5 | 74.4 | 18 | 0.091 | 36.1 |
| 9007 | McLennan | IH35 | 15 | 1 | 34 | 1966.75 | 8 | 0.8 | () | | | | | 3 | H | 3 | 14.5 | 80.5 | 18 | 0.098 | 31.6 |
| 9008 | McLennan | IH35 | 15 | 1 | 45 | 1970.58 | 8 | 1.0 | () | | | | | 2 | L | 3 | 14.5 | 94.7 | 18 | 0.136 | 31.6 |
| 9009 | McLennan | IH35 | 15 | 1 | 51 | 1971.33 | 8 | 1.0 | () | | | | | 1 | L | 1 | 14.5 | 85.5 | 20 | 0.13 | 31.6 |
| 9010 | McLennan | IH35 | 15 | 1 | 60 | 1972.58 | 8 | 1.3 | () | | | | | 3 | L | 1 | 14.5 | 92.3 | 8.06 | 0.11 | 31.6 |
| 9102 | Error | | | | | | | | | | | | | | | | | | | | |
| 10001 | VanZandt | IH20 | 495 | 2 | 3 | 1963.33 | 8 | 3.6 | (26) | 84.4 | | | | 3 | L | 2 | 12.8 | 85.65 | 12.9 | 0.098 | 38.0 |
| 10002 | Smith | IH20 | 495 | 4 | 3 | 1963.50 | 8 | 6.6 | (33) | 85.3 | | | | 2 | L | 3 | 16.2 | 94.7 | 12 | 0.055 | 47.0 |
| 10003 | Smith | IH20 | 495 | 4 | 4 | 1963.92 | 8 | 6.0 | (29/36) | 84.5 | 86.8 | | | 3 | L | 2 | 16.2 | 61 | 12 | 0.044 | 47.0 |
| 10004 | VanZandt | IH20 | 495 | 3 | 4 | 1963.92 | 8 | 8.0 | (36) | 85.7 | | | | 3 | L | 3 | 12.8 | 58.4 | 6.08 | 0.068 | 38.0 |
| 10005 | VanZandt | IH20 | 495 | 3 | 3 | 1964.67 | 8 | 8.4 | (27) | 84.4 | | | | 3 | L | 2 | 12.8 | 85.5 | 16 | 0.088 | 38.0 |
| 10006 | VanZandt | IH20 | 495 | 2 | 5 | 1965.58 | 8 | 5.0 | (26) | 84.4 | | | | 3 | L | 2 | 12.8 | 93 | 10.04 | 0.124 | 38.0 |
| 10007 | VanZandt | IH20 | 495 | 2 | 7 | 1965.58 | 8 | 5.2 | (26) | 84.4 | | | | 3 | L | 2 | 12.8 | 93 | 10.04 | 0.124 | 38.0 |
| 10008 | Gregg | IH20 | 495 | 7 | 1 | 1965.67 | 8 | 4.6 | (35) | 85.3 | | | | 4 | L | 2 | 16.2 | 86.5 | 10.04 | 0.05 | 47.0 |
| 10009 | Smith | IH20 | 495 | 5 | 3 | 1965.99 | 8 | 8.3 | () | | | | | 3 | L | 2 | 16.2 | 63.5 | 10.04 | 0.04 | 47.0 |
| 10010 | Smith | IH20 | 495 | 5 | 5 | 1966.25 | 8 | 7.4 | () | | | | | 3 | L | 2 | 16.2 | 76.8 | 19.05 | 0.06 | 47.0 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10011 | Gregg | IH20 | 495 | 7 | 2 | 1966.58 | 8 | 3.8 | (35) | 85.3 | | | | 4 | H | 2 | 16.2 | 90.7 | 19.05 | 0.053 | 47.0 |
| 10012 | Gregg | IH20 | 495 | 7 | 3 | 1967.33 | 8 | 6.4 | (35) | 85.3 | | | | 4 | H | 2 | 16.2 | 84.95 | 21 | 0.07 | 47.0 |
| 10013 | Gregg | IH20 | 495 | 7 | 6 | 1967.33 | 8 | 1.8 | () | | | | | 4 | L | 2 | 16.2 | 84.95 | 21 | 0.07 | 47.0 |
| 10014 | Smith | IH20 | 495 | 6 | 1 | 1966.08 | 8 | 8.2 | (17) | 87.5 | | | | 3 | L | 2 | 16.2 | 58.5 | 10.05 | 0.041 | 47.0 |
| 12107 | FortBend | US59 | 27 | 12 | 28/30 | 1976.25 | 10 | 6.8 | () | | | | | 1 | H | 2 | 20.2 | 77 | 18 | 0.06 | 46.9 |
| 12123 | Error | | | | | | | | | | | | | | | | | | | | |
| 12439 | Error | | | | | | | | | | | | | | | | | | | | |
| 12440 | Error | | | | | | | | | | | | | | | | | | | | |
| 12441 | Error | | | | | | | | | | | | | | | | | | | | |
| 12443 | Error | | | | | | | | | | | | | | | | | | | | |
| 12444 | Missing | | | | | | | | | | | | | | | | | | | | |
| 12447 | Errir | | | | | | | | | | | | | | | | | | | | |
| 12500 | HARRIS | SH225 | | | | 1991.90 | 13 | 2500.0 | () | | | | | 1 | X | | 20.2 | 72.1 | 21.4 | 0.054 | 46.9 |
| 12501 | HARRIS | SH6 | | | | 1989.50 | 13 | 800.0 | () | | | | | 1 | X | | 20.2 | 89.5 | 7 | 0.06 | 46.9 |
| 12502 | HARRIS | SH6 | | | | 1989.50 | 13 | 800.0 | () | | | | | 2 | X | | 20.2 | 89.5 | 7 | 0.06 | 46.9 |
| 12503 | HARRIS | SH6 | | | | 1990.10 | 13 | 800.0 | () | | | | | 1 | X | | 20.2 | 69 | 19.05 | 0.056 | 46.9 |
| 12504 | HARRIS | SH6 | | | | 1990.10 | 13 | 800.0 | () | | | | | 2 | X | | 20.2 | 69 | 19.05 | 0.056 | 46.9 |
| 12505 | HARRIS | BW8 | | | | 1989.90 | 13 | 800.0 | () | | | | | 1 | X | | 20.2 | 69.8 | 7 | 0.055 | 46.9 |
| 12506 | HARRIS | BW8 | | | | 1989.90 | 13 | 800.0 | () | | | | | 2 | X | | 20.2 | 69.8 | 7 | 0.055 | 46.9 |
| 12507 | HARRIS | IH45 | | | | 1990.10 | 13 | 800.0 | () | | | | | 2 | X | | 20.2 | 69 | 19.05 | 0.056 | 46.9 |
| 12508 | HARRIS | IH45 | | | | 1990.10 | 13 | 800.0 | () | | | | | 2 | X | | 20.2 | 69 | 19.05 | 0.056 | 46.9 |
| 12901 | Harris | BE8 | 3256 | 2 | 13 | 1986.67 | 13 | 5.1 | () | | | | | 1 | H | 2 | 20.2 | 85.8 | 27 | 0.051 | 46.9 |
| 12902 | Harris | BE8 | 3256 | 2 | 14 | 1986.58 | 13 | 1.6 | () | | | | | 1 | H | 2 | 20.2 | 92.1 | 27 | 0.061 | 46.9 |
| 12903 | Harris | BE8 | 3256 | 3 | 12 | 1985.41 | 10 | 0.3 | () | | | | | 1 | H | 2 | 20.2 | 84.5 | 25 | 0.07 | 46.9 |
| 12904 | Harris | BE8 | 3256 | 3 | 13 | 1985.41 | 10 | 2.5 | () | | | | | 1 | H | 2 | 20.2 | 84.5 | 25 | 0.07 | 46.9 |
| 12905 | Harris | BE8 | 3256 | 1 | 19 | 1985.67 | 10 | 2.4 | () | | | | | 2 | H | 2 | 20.2 | 87.7 | 25 | 0.059 | 46.9 |
| 12906 | Harris | BW8 | 3256 | 1 | 45 | 1987.60 | 10 | 0.0 | () | | | | | 6 | H | 5 | 20.2 | 92.5 | 25 | 0.062 | 46.9 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12907 | Harris | BW8 | 3256 | 1 | 85 | 1987.60 | 10 | 0.0 | () | | | | | 2 | H | 5 | 20.2 | 92.5 | 25 | 0.062 | 46.9 |
| 12908 | Harris | BW8 | 3256 | 1 | 17 | 1988.80 | 10 | 0.1 | () | | | | | 6 | H | 5 | 20.2 | 84.1 | 23 | 0.07 | 46.9 |
| 12909 | Harris | BW8 | 3256 | 1 | 17 | 1988.90 | 10 | 0.1 | () | | | | | 2 | H | 5 | 20.2 | 75.6 | 23 | 0.064 | 46.9 |
| 12910 | Montgomer | LP336 | 388 | 11 | 19 | 1989.60 | 9 | 1.6 | () | | | | | 2 | L | 5 | 20.2 | 86.7 | 7 | 0.057 | 46.9 |
| 12911 | Brazoria | US288 | 598 | 4 | 9 | 1990.10 | 11 | 1.9 | () | | | | | | H | 5 | 20.2 | 69 | 19.05 | 0.056 | 56.3 |
| 12912 | Harris | FM1960 | 1685 | 1 | | 1987.60 | 11 | 5.1 | () | | | | | 1 | L | 5 | 20.2 | 92.5 | 25 | 0.062 | 46.9 |
| 12913 | Harris | FM1960 | 1685 | 1 | 44 | 1987.60 | 11 | 2.4 | () | | | | | 2 | L | 5 | 20.2 | 92.5 | 25 | 0.062 | 46.9 |
| 12914 | Waller | IH10 | 271 | 4 | 059 | 1989.50 | 14 | 5.9 | () | | | | | | L | 5 | 20.2 | 89.5 | 7 | 0.06 | 46.9 |
| 12920 | Missing | | | | | | | | | | | | | | | | | | | | |
| 12925 | Missing | | | | | | | | | | | | | | | | | | | | |
| 12996 | Missing | | | | | | | | | | | | | | | | | | | | |
| 12997 | Missing | | | | | | | | | | | | | | | | | | | | |
| 12998 | Missing | | | | | | | | | | | | | | | | | | | | |
| 12999 | Missing | | | | | | | | | | | | | | | | | | | | |
| 13001 | Colorado | IH10 | 271 | 1 | 8 | 1964.42 | 8 | 2.2 | (35) | 81.4 | | | | 1 | H | 2 | 20.2 | 88.2 | 26.05 | 0.072 | 39.9 |
| 13002 | Colorado | IH10 | 535 | 8 | 4 | 1964.42 | 8 | 7.2 | (37/40) | 81.4 | 82.9 | | | 1 | L | 2 | 20.2 | 88.2 | 26.05 | 0.072 | 39.9 |
| 13003 | Colorado | IH10 | 271 | 1 | 9 | 1966.92 | 8 | 12.2 | (40) | 83.1 | | | | 1 | L | 2 | 20.2 | 67.05 | 26.05 | 0.062 | 39.9 |
| 13005 | Victoria | LP175 | 88 | 5 | 12 | 1968.75 | 8 | 8.6 | (44/42) | 84.4 | 87.6 | | | 1 | H | 2 | 21.4 | 80.1 | 26.05 | 0.065 | 37.3 |
| 13006 | Fayette | IH10 | 535 | 7 | 6 | 1969.25 | 8 | 4.8 | (25) | 86.5 | | | | 1 | H | 2 | 20.2 | 74.8 | 20 | 0.068 | 37.9 |
| 13007 | Colorado | IH10 | 535 | 8 | 12 | 1969.25 | 8 | 10.0 | (48) | 86.5 | | | | 1 | L | 2 | 20.2 | 74.8 | 20 | 0.068 | 39.9 |
| 13008 | Victoria | LP175 | 88 | 5 | 14 | 1969.58 | 8 | 3.2 | () | | | | | 1 | H | 2 | 21.4 | 93 | 19.95 | 0.088 | 37.3 |
| 13009 | Victoria | US77 | 371 | 1 | 30 | 1969.58 | 8 | 1.8 | (39/52) | 74.7 | 85.6 | | | 1 | L | 2 | 21.4 | 93 | 19.95 | 0.088 | 37.3 |
| 13010 | Victoria | SP91 | 371 | 6 | 3 | 1969.58 | 8 | 1.1 | (10) | 85.6 | | | | 1 | H | 2 | 21.4 | 93 | 19.95 | 0.088 | 37.3 |
| 13011 | Fayette | IH10 | 535 | 7 | 9 | 1969.58 | 8 | 6.0 | () | | | | | 1 | H | 2 | 20.2 | 91.4 | 20 | 0.088 | 37.9 |
| 13012 | Wharton | US59 | 89 | 8 | 39 | 1969.67 | 8 | 2.6 | (66) | 73.1 | 80.4 | 80.8 | 87.5 | 1 | H | 2 | 20.2 | 85.9 | 20 | 0.056 | 44.4 |
| 13013 | Fayette | IH10 | 535 | 6 | 5 | 1970.41 | 8 | 5.4 | () | | | | | 1 | H | 2 | 20.2 | 81.7 | 25 | 0.055 | 37.9 |
| 13014 | Fayette | IH10 | 535 | 7 | 10 | 1970.41 | 8 | 0.4 | () | | | | | 1 | L | 2 | 20.2 | 81.7 | 25 | 0.055 | 37.9 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13015 | Fayette | IH10 | 535 | 6 | 8 | 1971.83 | 8 | 5.6 | () | | | | | 2 | H | 2 | 20.2 | 79.5 | 23 | 0.04 | 37.9 |
| 13016 | Gonzales | IH10 | 535 | 5 | 7 | 1971.83 | 8 | 3.6 | () | | | | | 2 | H | 1 | 17.8 | 80.3 | 19.05 | 0.07 | 34.7 |
| 13017 | Gonzales | IH10 | 535 | 4 | 7 | 1972.17 | 8 | 8.4 | () | | | | | 2 | L | 2 | 17.8 | 76.5 | 19.05 | 0.085 | 34.7 |
| 13018 | Victoria | US59 | 89 | 1 | 36 | 1972.25 | 8 | 7.8 | (61) | 86.8 | | | | 1 | H | 2 | 21.4 | 81.3 | 21.95 | 0.078 | 37.3 |
| 13019 | Jackson | US59 | 89 | 3 | 37 | 1972.25 | 8 | 4.6 | (58) | 83.4 | | | | 1 | H | 2 | 21.4 | 81.3 | 21.95 | 0.078 | 44.4 |
| 13020 | Gonzales | IH10 | 535 | 4 | 8 | 1972.41 | 8 | 1.8 | () | | | | | 2 | L | 1 | 17.8 | 84.1 | 19.05 | 0.074 | 34.7 |
| 13021 | Gonzales | IH10 | 535 | 5 | 9 | 1972.41 | 8 | 7.8 | () | | | | | 2 | H | 1 | 17.8 | 84.1 | 19.05 | 0.074 | 34.7 |
| 13022 | Wharton | US59 | 89 | 6 | 29/30 | 1973.58 | 8 | 2.2 | () | | | | | 1 | H | 2 | 21.4 | 89.5 | 27 | 0.062 | 44.4 |
| 13023 | Wharton | US59 | 89 | 7 | 75/76 | 1973.58 | 8 | 4.8 | (100) | 87.6 | | | | 1 | L | 1 | 21.4 | 89.5 | 27 | 0.062 | 44.4 |
| 13024 | Wharton | US59 | 89 | 7 | 75 | 1973.58 | 8 | 6.0 | (97) | 79.8 | | | | 1 | H | 1 | 21.4 | 89.5 | 27 | 0.062 | 44.4 |
| 13025 | Wharton | US59 | 89 | 8 | 52 | 1972.33 | 8 | 0.4 | () | | | | | 1 | H | 2 | 21.4 | 85.3 | 21.95 | 0.075 | 44.4 |
| 13026 | Wharton | US59 | 89 | 8 | 51 | 1975.33 | 8 | 2.8 | () | | | | | 1 | H | 2 | 21.4 | 83.7 | 21.95 | 0.072 | 44.4 |
| 13027 | Wharton | US59 | 89 | 7 | 81 | 1975.33 | 8 | 0.4 | () | | | | | 1 | H | 2 | 21.4 | 83.7 | 21.95 | 0.072 | 44.4 |
| 13028 | Wharton | US59 | 89 | 7 | 80 | 1975.33 | 8 | 3.4 | () | | | | | 1 | H | 2 | 21.4 | 83.7 | 21.95 | 0.072 | 44.4 |
| 13029 | Jackson | US59 | 89 | 5 | 19 | 1974.58 | 8 | 4.8 | (31) | 87.6 | | | | 1 | H | 3 | 21.4 | 90.4 | 21 | 0.084 | 44.4 |
| 13030 | Jackson | US59 | 89 | 4 | 34 | 1974.58 | 8 | 2.2 | () | | | | | 1 | L | 3 | 21.4 | 90.4 | 21 | 0.084 | 44.4 |
| 13031 | Jackson | US59 | 89 | 4 | 41 | 1976.00 | 8 | 1.8 | (51/48) | 84.8 | 87.6 | | | 1 | H | 1 | 21.4 | 67.3 | 19.95 | 0.062 | 44.4 |
| 13032 | Jackson | US59 | 89 | 4 | 33 | 1974.50 | 8 | 5.0 | () | | | | | 1 | L | 2 | 21.4 | 90.4 | 21 | 0.084 | 44.4 |
| 13033 | Jackson | US59 | 89 | 3 | 42 | 1974.50 | 8 | 2.2 | () | | | | | 1 | L | 2 | 21.4 | 90.4 | 21 | 0.084 | 44.4 |
| 13101 | Missing | | | | | | | | | | | | | | | | | | | | |
| 13103 | Missing | | | | | | | | | | | | | | | | | | | | |
| 13104 | Missing | | | | | | | | | | | | | | | | | | | | |
| 15015 | Missing | | | | | | | | | | | | | | | | | | | | |
| 15021 | Bexar | IH410 | 521 | 6 | 1 | 1964.92 | 8 | 3.6 | (52) | 87.4 | | | | 3 | L | 2 | 17.8 | 66.9 | 24.1 | 0.064 | 20.3 |
| 15022 | Bexar | IH410 | 25 | 2 | 40 | 1964.92 | 8 | 1.4 | () | | | | | 3 | L | 2 | 17.8 | 66.9 | 24.1 | 0.064 | 20.3 |
| 15025 | Bexar | IH37 | 73 | 8 | 2 | 1967.67 | 8 | 1.2 | (85) | 84.8 | | | | 2 | L | 3 | 17.8 | 83.9 | 24.1 | 0.076 | 20.3 |
| 15031 | Bexar | US281 | 73 | 8 | 4 | 1969.67 | 8 | 6.0 | (63/75) | 81.3 | 82.3 | | | 3 | L | 2 | 17.8 | 87.3 | 17.05 | 0.094 | 20.3 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15032 | Bexar | US281 | 73 | 8 | 8 | 1972.17 | 8 | 1.2 | (85) | 84.8 | | | | 2 | L | 2 | 17.8 | 76.5 | 19.04 | 0.085 | 20.3 |
| 15033 | Bexar | US281 | 73 | 8 | 22 | 1972.00 | 8 | 1.2 | (85) | 84.8 | | | | 2 | L | 2 | 17.8 | 66 | 19.04 | 0.059 | 20.3 |
| 15034 | Bexar | US281 | 73 | 8 | 10 | 1976.50 | 8 | 1.6 | (99) | 86.9 | | | | 2 | H | 2 | 17.8 | 88 | 21 | 0.084 | 20.3 |
| 15035 | Bexar | US281 | 73 | 8 | 9 | 1976.50 | 8 | 1.6 | (98) | 86.9 | | | | 2 | L | 2 | 17.8 | 88 | 21 | 0.084 | 20.3 |
| 15036 | Bexar | US281 | 73 | 8 | 41 | 1978.25 | 8 | 2.8 | (99) | 86.9 | | | | 2 | H | 2 | 17.8 | 78.1 | 16 | 0.09 | 20.3 |
| 15901 | Bexar | IH35 | 16 | 7 | 75 | 1983.67 | 13 | 1.1 | () | | | | | 2 | H | 3 | 17.8 | 87.8 | 10.05 | 0.102 | 20.3 |
| 15902 | Bexar | IH35 | 17 | 10 | 116 | 1983.67 | 13 | 0.9 | () | | | | | 2 | L | 3 | 17.8 | 87.8 | 10.05 | 0.102 | 20.3 |
| 15903 | Bexar | IH410 | 521 | 4 | 136 | 1983.67 | 13 | 0.8 | (193) | 87.1 | | | | 2 | H | 3 | 17.8 | 81.3 | 10.05 | 0.09 | 20.3 |
| 15911 | Bexar | IH35 | 16 | 7 | 89 | 1987.42 | 11.5 | 2.0 | () | | | | | 2 | H | 3 | 17.8 | 88 | 14 | 0.067 | 20.3 |
| 15912 | Bexar | IH35 | 16 | 7 | 81 | 1984.99 | 9 | 0.3 | () | | | | | 2 | H | 1 | 17.8 | 63.6 | 14 | 0.06 | 20.3 |
| 15913 | Bexar | IH35 | 16 | 7 | 81 | 1984.99 | 7 | 1.8 | () | | | | | 2 | H | 3 | 17.8 | 63.6 | 14 | 0.06 | 20.3 |
| 15914 | Bexar | IH35 | 16 | 7 | 81 | 1984.99 | 11.5 | 0.4 | () | | | | | 2 | H | 3 | 17.8 | 63.6 | 14 | 0.06 | 20.3 |
| 17001 | Walker | IH45 | 675 | 7 | 4 | 1961.58 | 8 | 11.4 | (36) | 84.6 | | | | 2 | L | 3 | 20.2 | 89.2 | 17.05 | 0.06 | 54.3 |
| 17002 | Walker | IH45 | 675 | 6 | 8 | 1963.92 | 8 | 13.2 | (46) | 85.3 | | | | 2 | L | 1 | 20.2 | 63.4 | 19.95 | 0.052 | 54.3 |
| 17003 | Leon | IH45 | 675 | 4 | 5 | 1967.75 | 8 | 11.8 | (20) | 85.8 | | | | 1 | L | 1 | 14.5 | 77.4 | 19.04 | 0.083 | 40.4 |
| 17004 | Madison | IH45 | 675 | 5 | 6 | 1967.67 | 8 | 5.8 | (20) | 85.8 | | | | 1 | H | 1 | 14.5 | 86.7 | 19.04 | 0.11 | 40.4 |
| 17005 | Madison | IH45 | 675 | 5 | 3 | 1965.84 | 8 | 12.7 | (27) | 87.3 | | | | 3 | H | 1 | 14.5 | 69.8 | 12.95 | 0.063 | 40.4 |
| 17006 | Freestone | IH45 | 675 | 1 | 4 | 1968.84 | 8 | 2.1 | () | | | | | 3 | L | 1 | 14.5 | 68.7 | 23 | 0.083 | 40.4 |
| 17007 | Leon | IH45 | 675 | 3 | 5 | 1969.67 | 8 | 16.0 | () | | | | | 1 | L | 1 | 14.5 | 88.6 | 19.04 | 0.098 | 40.4 |
| 17008 | Freestone | IH45 | 675 | 1 | 7 | 1971.92 | 8 | 12.4 | () | | | | | 2 | L | 3 | 14.5 | 61.7 | 19.95 | 0.06 | 40.4 |
| 17009 | Freestone | IH45 | 675 | 1 | 6 | 1971.50 | 8 | 0.5 | () | | | | | 1 | L | 1 | 14.5 | 92.2 | 20 | 0.112 | 40.4 |
| 17010 | Freestone | IH45 | 675 | 2 | 5 | 1971.50 | 8 | 17.0 | (18) | 85.8 | | | | 1 | L | 1 | 14.5 | 92.2 | 20 | 0.112 | 40.4 |
| 17011 | Brazos | SH6 | 49 | 12 | 4 | 1972.50 | 8 | 12.6 | () | | | | | 1 | H | 1 | 14.5 | 92.3 | 8.06 | 0.11 | 32.3 |
| 18001 | Dallas | US75 | 47 | 7 | 16 | 1949.58 | 9 | 1.0 | (82/90) | 73.9 | 78.4 | | | 2 | L | 3 | 12.8 | 93.1 | 12.9 | 0.113 | 36.1 |
| 18002 | Dallas | US75 | 47 | 7 | 14 | 1949.58 | 9 | 0.8 | (82/90) | 73.9 | 78.4 | | | 1 | L | 3 | 12.8 | 93.1 | 12.9 | 0.113 | 36.1 |
| 18003 | Dallas | US75 | 47 | 7 | 17 | 1950.08 | 9 | 1.2 | (82/90) | 73.9 | 78.4 | | | 2 | L | 3 | 12.8 | 55.8 | 12.9 | 0.064 | 36.1 |
| 18005 | Dallas | US75 | 47 | 7 | 22 | 1951.50 | 9 | 0.2 | (82/90) | 73.9 | 78.4 | | | 2 | L | 3 | 12.8 | 93.1 | 12.9 | 0.113 | 36.1 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18006 | Dallas | US75 | 47 | 7 | 12 | 1952.33 | 9 | 1.2 | (82/90) | 73.9 | 78.4 | | | 2 | L | 3 | 12.8 | 82.5 | 12.9 | 0.098 | 36.1 |
| 18007 | Dallas | US75 | 47 | 7 | 24 | 1953.17 | 9 | 1.4 | (82/90) | 73.9 | 78.4 | | | 2 | L | 3 | 12.8 | 66.9 | 12.9 | 0.087 | 36.1 |
| 18008 | Dallas | US75 | 47 | 7 | 26 | 1953.17 | 9 | 0.4 | (82/90) | 73.9 | 78.4 | | | 2 | L | 3 | 12.8 | 66.9 | 12.9 | 0.087 | 36.1 |
| 18009 | Dallas | US75 | 47 | 7 | 23 | 1953.25 | 9 | 0.4 | (82/90) | 73.9 | 78.4 | | | 2 | L | 3 | 12.8 | 74.75 | 12.9 | 0.094 | 36.1 |
| 18010 | Dallas | US75 | 47 | 7 | 35 | 1953.50 | 9 | 1.3 | (82/90) | 73.9 | 78.4 | | | 3 | L | 3 | 12.8 | 93.1 | 12.9 | 0.113 | 36.1 |
| 18011 | Dallas | US75 | 47 | 7 | 34 | 1953.58 | 9 | 1.5 | (82/90) | 73.9 | 78.4 | | | 3 | L | 3 | 12.8 | 93.1 | 12.9 | 0.113 | 36.1 |
| 18013 | Dallas | US75 | 47 | 7 | 36 | 1954.33 | 10 | 2.2 | (82/90) | 73.9 | 78.4 | | | 3 | L | 3 | 12.8 | 82.5 | 12.9 | 0.098 | 36.1 |
| 18015 | Dallas | US75 | 47 | 7 | 39 | 1955.33 | 10 | 3.0 | (82/90) | 73.9 | 78.4 | | | 3 | L | 3 | 12.8 | 82.5 | 12.9 | 0.098 | 36.1 |
| 18019 | Dallas | US75 | 47 | 7 | 47 | 1958.75 | 10 | 1.0 | (82/90) | 73.9 | 78.4 | | | 3 | L | 3 | 12.8 | 76.8 | 12.9 | 0.098 | 36.1 |
| 18034 | | | | | | | | | | | | | | | | | | | | | |
| 18040 | Dallas | IH30 | 9 | 11 | 19 | 1960.00 | 8 | 1.4 | () | | | | | 2 | L | 3 | 12.8 | 55.8 | 12.9 | 0.064 | 36.1 |
| 18049 | Dallas | IH30 | 9 | 11 | 20 | 1961.33 | 11 | 1.8 | (77/93,96/122) | 74.0 | 77.8 | 79.4 | 84.9 | 2 | L | 3 | 12.8 | 81.5 | 7 | 0.121 | 36.1 |
| 18053 | Dallas | IH35E | 442 | 2 | 25 | 1962.17 | 8 | 1.0 | (55) | 70.8 | | | | 2 | L | 3 | 12.8 | 67.9 | 10.04 | 0.107 | 36.1 |
| 18054 | Dallas | IH30 | 9 | 11 | 22 | 1962.84 | 8 | 1.4 | (77/93,96/122) | 74.0 | 77.8 | 79.4 | 84.9 | 2 | L | 3 | 12.8 | 66.3 | 10.04 | 0.076 | 36.1 |
| 18055 | Dallas | IH30 | 9 | 11 | 23 | 1963.16 | 8 | 1.0 | (77/93,96/122) | 74.0 | 77.8 | 79.4 | 84.9 | 2 | L | 3 | 12.8 | 60.3 | 6.08 | 0.099 | 36.1 |
| 18058 | Dallas | IH35E | 442 | 2 | 38 | 1963.58 | 8 | 1.9 | () | | | | | 2 | L | 4 | 12.8 | 96.2 | 6.08 | 0.14 | 36.1 |
| 18060 | Dallas | IH30 | 9 | 11 | 41 | 1964.84 | 8 | 0.9 | () | | | | | 3 | L | 2 | 12.8 | 67 | 6.08 | 0.062 | 36.1 |
| 18061 | Dallas | IH35E | 442 | 2 | 33 | 1964.84 | 8 | 2.6 | () | | | | | 2 | L | 4 | 12.8 | 67 | 16 | 0.062 | 36.1 |
| 18062 | Dallas | IH30 | 9 | 11 | 35 | 1965.50 | 8 | 0.6 | () | | | | | 2 | L | 2 | 12.8 | 93 | 16 | 0.124 | 36.1 |
| 18064 | Dallas | IH35E | 442 | 2 | 38 | 1965.00 | 8 | 2.2 | () | | | | | 2 | L | 4 | 12.8 | 56.8 | 10.04 | 0.609 | 36.1 |
| 18065 | Dallas | IH30 | 9 | 11 | 45 | 1965.84 | 8 | 0.4 | () | | | | | 2 | H | 2 | 12.8 | 70 | 10.04 | 0.065 | 36.1 |
| 18066 | Dallas | IH35E | 442 | 2 | 36 | 1965.84 | 8 | 2.2 | () | | | | | 2 | L | 4 | 12.8 | 70 | 10.04 | 0.065 | 36.1 |
| 18067 | Ellis | IH35E | 48 | 8 | 3 | 1966.08 | 8 | 8.8 | (19) | 84.2 | | | | 3 | L | 4 | 12.8 | 54.5 | 10.04 | 0.057 | 36.1 |
| 18069 | Dallas | IH30 | 9 | 11 | 49 | 1966.42 | 8 | 0.7 | () | | | | | 2 | H | 2 | 12.8 | 87.4 | 17.06 | 0.092 | 36.1 |
| 18070 | Ellis | IH35E | 48 | 8 | 6 | 1966.50 | 8 | 9.3 | (13/19) | 79.0 | 84.2 | | | 3 | L | 3 | 12.8 | 91 | 17.06 | 0.097 | 36.1 |
| 18071 | Denton | IH35W | 81 | 13 | 3 | 1966.75 | 8 | 3.2 | () | | | | | 2 | L | 3 | 12.8 | 77.4 | 17.06 | 0.078 | 38.0 |
| 18072 | Dallas | IH635 | 2374 | 1 | 2 | 1967.25 | 8 | 3.2 | () | | | | | 2 | H | 4 | 12.8 | 78.6 | 12.92 | 0.099 | 36.1 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18073 | Dallas | IH635 | 2374 | 1 | 3 | 1967.58 | 8 | 4.0 | () | | | | | 2 | L | 4 | 12.8 | 91.5 | 12.692 | 0.111 | 36.1 |
| 18074 | Dallas | US75 | 8 | 8 | 41 | 1967.58 | 8 | 1.6 | () | | | | | 2 | L | 4 | 12.8 | 91.5 | 12.92 | 0.111 | 36.1 |
| 18077 | Dallas | US75 | 2374 | 2 | 2 | 1968.92 | 8 | 2.2 | () | | | | | 3 | L | 4 | 12.8 | 60.3 | 17.06 | 0.07 | 36.1 |
| 18078 | Dallas | IH635 | 2374 | 2 | 6 | 1968.92 | 8 | 1.6 | () | | | | | 2 | L | 1 | 12.8 | 60.3 | 17.06 | 0.07 | 36.1 |
| 18079 | Dallas | IH635 | 2374 | 1 | 11 | 1968.92 | 8 | 6.0 | () | | | | | 2 | L | 1 | 12.8 | 60.3 | 17.06 | 0.07 | 36.1 |
| 18080 | Denton | IH35W | 81 | 13 | 5 | 1969.67 | 8 | 12.8 | () | | | | | 2 | H | 1 | 12.8 | 84.4 | 14 | 0.075 | 36.1 |
| 18081 | Dallas | US67 | 261 | 3 | 19 | 1969.67 | 8 | 3.0 | () | | | | | 2 | L | 1 | 12.8 | 84.4 | 14 | 0.075 | 36.1 |
| 18084 | | | | | | | | | | | | | | | | | | | | | |
| 18086 | Denton | IH35W | 81 | 13 | 6 | 1970.50 | 8 | 1.4 | () | | | | | 2 | H | 4 | 12.8 | 92.1 | 15.08 | 0.102 | 38.0 |
| 18088 | Dallas | IH635 | 2374 | 2 | 5 | 1971.08 | 8 | 3.4 | (49) | | | | | 2 | H | 2 | 12.8 | 61.35 | 15.08 | 0.067 | 36.1 |
| 18093 | Dallas | IH45 | 92 | 14 | 8/25 | 1972.16 | 8 | 1.0 | () | | | | | 2 | L | 1 | 12.8 | 64.4 | 10.04 | 0.08 | 36.1 |
| 18100 | Dallas | IH45 | 92 | 14 | 14 | 1973.92 | 8 | 0.5 | () | | | | | 2 | L | 2 | 12.8 | 60.3 | 17.06 | 0.061 | 36.1 |
| 18101 | Dallas | US67 | 261 | 3 | 21 | 1973.92 | 8 | 0.5 | () | | | | | 2 | L | 1 | 12.8 | 60.3 | 17.06 | 0.061 | 36.1 |
| 18103 | Dallas | IH20 | 2374 | 3 | 12 | 1974.25 | 8 | 0.9 | () | | | | | 2 | L | 2 | 12.8 | 77.8 | 19.04 | 0.08 | 36.1 |
| 18106 | Dallas | IH20 | 2374 | 4 | 2 | 1974.58 | 8 | 3.8 | () | | | | | 2 | L | 2 | 12.8 | 91.85 | 19.04 | 0.099 | 36.1 |
| 18107 | Dallas | IH20 | 2374 | 4 | 3 | 1974.67 | 8 | 3.8 | () | | | | | 2 | H | 2 | 12.8 | 82.6 | 19.04 | 0.0757 | 36.1 |
| 18110 | Dallas | IH20 | 2374 | 4 | 5 | 1975.99 | 8 | 5.0 | (17) | 85.8 | | | | 2 | H | 2 | 12.8 | 61.7 | 12.02 | 0.077 | 36.1 |
| 18117 | Dallas | SH114 | 353 | 6 | 4 | 1971.16 | 8 | 8.8 | () | | | | | 2 | H | 2 | 12.8 | 62.6 | 15.08 | 0.085 | 36.1 |
| 18118 | Dallas | SH114 | 353 | 4 | 29 | 1973.42 | 8 | 4.4 | () | | | | | 2 | H | 2 | 12.8 | 86.5 | 17.06 | 0.079 | 36.1 |
| 18119 | Dallas | SH114 | 353 | 4 | 28 | 1973.84 | 8 | 1.3 | () | | | | | 2 | H | 2 | 12.8 | 68.6 | 17.06 | 0.06 | 36.1 |
| 19001 | Harrison | IH20 | 495 | 10 | 3 | 1964.84 | 8 | 7.0 | (41) | 84.8 | | | | 1 | L | 1 | 16.2 | 70.8 | 19.95 | 0.041 | 47.0 |
| 19002 | Bowie | IH30 | 610 | 7 | 5 | 1965.42 | 8 | 5.4 | (39) | 82.4 | | | | 1 | H | 2 | 12.8 | 88 | 10.04 | 0.104 | 44.2 |
| 19003 | Bowie | IH30 | 610 | 7 | 6 | 1965.42 | 8 | 0.4 | (39) | 85.4 | | | | 1 | H | 2 | 12.8 | 88 | 10.04 | 0.104 | 44.2 |
| 19004 | Harrison | IH20 | 495 | 10 | 8 | 1965.84 | 8 | 8.0 | (38) | 83.8 | | | | 1 | L | 1 | 16.2 | 72.4 | 16.1 | 0.042 | 47.0 |
| 19005 | Titus | IH30 | 610 | 3 | 3 | 1966.75 | 8 | 9.4 | (40) | 86.7 | | | | 5 | L | 1 | 12.8 | 77.4 | 17.06 | 0.079 | 44.2 |
| 19006 | Harrison | IH20 | 495 | 9 | 4 | 1966.75 | 8 | 6.8 | (26) | 81.8 | | | | 1 | H | 3 | 16.2 | 78.9 | 19.05 | 0.045 | 47.0 |
| 19007 | Harrison | IH20 | 495 | 10 | 9 | 1966.75 | 8 | 0.2 | () | | | | | 1 | H | 3 | 16.2 | 78.9 | 19.05 | 0.045 | 47.0 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19008 | Harrison | IH20 | 495 | 8 | 5 | 1966.84 | 8 | 9.8 | (36) | 81.8 | | | | 1 | H | 3 | 16.2 | 70 | 19.05 | 0.045 | 47.0 |
| 19009 | Harrison | IH20 | 495 | 8 | 4 | 1966.92 | 8 | 7.0 | (48) | 85.5 | | | | 5 | L | 2 | 16.2 | 64.2 | 19.05 | 0.048 | 47.0 |
| 19010 | Bowie | IH30 | 610 | 6 | 5 | 1967.42 | 8 | 5.6 | (25/33) | 78.3 | 83.8 | | | 1 | H | 2 | 12.8 | 87.5 | 12.92 | 0.102 | 44.2 |
| 19011 | Bowie | IH30 | 610 | 7 | 10 | 1967.42 | 8 | 5.8 | (39/42) | 82.4 | 83.8 | | | 1 | H | 2 | 12.8 | 87.5 | 12.92 | 0.102 | 44.2 |
| 19014 | Bowie | IH30 | 610 | 6 | 3 | 1967.67 | 8 | 7.8 | (25/33) | 78.3 | 83.8 | | | 1 | H | 2 | 12.8 | 84 | 12.92 | 0.091 | 44.2 |
| 19015 | Titus | IH30 | 610 | 3 | 4 | 1967.92 | 8 | 3.2 | (40) | 86.7 | | | | 5 | L | 3 | 12.8 | 57.4 | 12.92 | 0.054 | 44.2 |
| 19017 | Titus | IH30 | 610 | 3 | 15 | 1970.67 | 8 | 7.4 | (42) | 86.8 | | | | 5 | L | 2 | 12.8 | 84.7 | 15.08 | 0.078 | 44.2 |
| 19018 | Bowie | IH30 | 610 | 5 | 8 | 1971.75 | 8 | 7.0 | () | | | | | 5 | L | 2 | 12.8 | 76.8 | 16 | 0.065 | 44.2 |
| 19019 | Bowie | IH30 | 610 | 5 | 9 | 1972.42 | 8 | 10.0 | (21) | 86.3 | | | | 1 | H | 2 | 12.8 | 88.3 | 10.04 | 0.097 | 44.2 |
| 19020 | Morris | IH30 | 610 | 4 | 6 | 1972.08 | 8 | 7.4 | (15) | 86.8 | | | | 5 | H | 2 | 12.8 | 59.5 | 10.04 | 0.06 | 44.2 |
| 20001 | Jefferson | SH73 | 508 | 4 | 30 | 1963.16 | 8 | 0.5 | () | | | | | 1 | H | 2 | 21.7 | 64.2 | 17.06 | 0.06 | 54.3 |
| 20002 | Jefferson | SH347 | 667 | 1 | 28 | 1963.25 | 7 | 1.6 | () | | | | | 1 | H | 3 | 21.7 | 80.2 | 17.06 | 0.069 | 54.3 |
| 20003 | Jefferson | SH73 | 508 | 4 | 24 | 1963.42 | 8 | 3.8 | () | | | | | 1 | H | 2 | 21.7 | 89.9 | 17.06 | 0.06 | 54.3 |
| 20004 | Jefferson | IH10 | 739 | 2 | 6 | 1963.50 | 8 | 9.2 | (56/87) | 75.7 | 84.4 | | | 1 | H | 3 | 21.7 | 92.8 | 17.06 | 0.055 | 54.3 |
| 20005 | Jefferson | SH347 | 667 | 1 | 32 | 1963.58 | 7 | 2.0 | () | | | | | 1 | H | 3 | 21.7 | 92.8 | 17.06 | 0.055 | 54.3 |
| 20006 | Jefferson | SH347 | 667 | 1 | 31 | 1964.58 | 7 | 0.7 | () | | | | | 1 | H | 3 | 21.7 | 89.4 | 23 | 0.047 | 54.3 |
| 20009 | Jefferson | IH10 | 739 | 2 | 9 | 1964.92 | 8 | 7.8 | (78/82) | 81.4 | 82.3 | | | 2 | L | 2 | 21.7 | 67.2 | 23 | 0.052 | 54.3 |
| 20011 | Jefferson | US96 | 65 | 8 | 72 | 1965.08 | 8 | 3.0 | (140) | 86.8 | | | | 2 | H | 2 | 21.7 | 63.9 | 21.02 | 0.057 | 54.3 |
| 20012 | Jefferson | SH347 | 667 | 1 | 36 | 1965.33 | 7 | 0.8 | () | | | | | 2 | H | 2 | 21.7 | 83.8 | 21.02 | 0.064 | 54.3 |
| 20013 | Jefferson | US96 | 65 | 8 | 70 | 1965.33 | 10 | 0.4 | () | | | | | 2 | H | 2 | 21.7 | 83.8 | 21.02 | 0.064 | 54.3 |
| 20014 | Jefferson | US96 | 65 | 8 | 71 | 1965.84 | 8 | 2.8 | () | | | | | 1 | H | 2 | 21.7 | 73.5 | 21.02 | 0.056 | 54.3 |
| 20015 | Liberty | US59 | 177 | 3 | 27 | 1966.67 | 8 | 2.7 | (62/65) | 85.2 | 86.8 | | | 1 | L | 2 | 21.7 | 83.9 | 28.05 | 0.05 | 54.3 |
| 20016 | Liberty | US59 | 177 | 3 | 28 | 1966.67 | 8 | 0.6 | (62/65) | 85.2 | 86.8 | | | 1 | L | 2 | 21.7 | 83.9 | 28.05 | 0.05 | 54.3 |
| 20017 | Jefferson | US90 | 28 | 6 | 31 | 1967.50 | 8 | 0.7 | () | | | | | 1 | H | 2 | 21.7 | 89.1 | 25 | 0.073 | 54.3 |
| 20018 | Jefferson | US90 | 28 | 6 | 32 | 1967.92 | 8 | 2.8 | () | | | | | 1 | H | 2 | 21.7 | 65 | 25 | 0.056 | 54.3 |
| 20019 | Hardin | US96 | 65 | 5 | 58 | 1967.75 | 8 | 2.2 | () | | | | | 2 | H | 2 | 21.7 | 79.4 | 25 | 0.0695 | 54.3 |
| 20020 | Hardin | US96 | 65 | 5 | 59 | 1967.75 | 8 | 0.4 | () | | | | | 2 | H | 2 | 21.7 | 79.4 | 25 | 0.0695 | 54.3 |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20021 | Jefferson | US90 | 28 | 6 | 35 | 1969.58 | 8 | 5.6 | () | | | | | 1 | H | 2 | 21.7 | 90.7 | 19.95 | 0.052 | 54.3 |
| 20022 | Jefferson | US69 | 200 | 14 | 22 | 1969.50 | 8 | 1.2 | () | | | | | 1 | L | 2 | 21.7 | 90.7 | 19.95 | 0.052 | 54.3 |
| 20023 | Jefferson | US69 | 200 | 14 | 26 | 1971.42 | 8 | 1.0 | () | | | | | 1 | L | 2 | 21.7 | 86.6 | 21.02 | 0.049 | 54.3 |
| 20026 | Jefferson | SH87 | 306 | 3 | 54 | 1972.16 | 8 | 0.6 | () | | | | | 1 | H | 2 | 21.7 | 66.9 | 21.02 | 0.06 | 54.3 |
| 24002 | ElPaso | IH10 | 2121 | 2 | 1 | 1962.00 | 8 | 1.0 | () | | | | | 2 | H | 3 | 12.7 | 58.5 | -7.06 | 0.065 | 8.6 |
| 24003 | ElPaso | IH10 | 2121 | 2 | 18 | 1969.92 | 8 | 0.8 | () | | | | | 2 | H | 2 | 12.7 | 60.6 | 16 | 0.06 | 8.6 |
| 24004 | ElPaso | IH10 | 2121 | 2 | 6 | 1964.00 | 8 | 2.8 | () | | | | | 2 | H | 3 | 12.7 | 54.5 | 10.95 | 0.07 | 8.6 |
| 24005 | ElPaso | IH10 | 2121 | 2 | 9 | 1968.50 | 8 | 1.4 | (71) | 86.8 | | | | 2 | H | 2 | 12.7 | 89.25 | 17.05 | 0.123 | 8.6 |
| 24006 | ElPaso | IH10 | 2121 | 2 | 19 | 1968.75 | 8 | 1.4 | () | | | | | 2 | H | 2 | 12.7 | 76 | 17.05 | 0.087 | 8.6 |
| 24007 | ElPaso | IH10 | 2121 | 2 | 7 | 1969.00 | 8 | 4.2 | () | | | | | 2 | H | 3 | 12.7 | 58.3 | 16 | 0.067 | 8.6 |
| 24008 | ElPaso | IH10 | 2121 | 2 | 8 | 1964.84 | 8 | 2.0 | () | | | | | 2 | H | 2 | 12.7 | 65.75 | 12.02 | 0.071 | 8.6 |
| 24009 | Culberson | IH10 | 3 | 3 | 19 | 1969.58 | 8 | 2.8 | (29) | 87.1 | | | | 2 | L | 1 | 12.7 | 94.9 | 16 | 0.173 | 13.9 |
| 24010 | JeffDavis | IH10 | 3 | 4 | 22 | 1969.58 | 8 | 7.0 | (32,33) | 87.1 | 86.8 | | | 2 | L | 3 | 12.7 | 94.9 | 16 | 0.173 | 14.1 |
| 24011 | Culberson | IH10 | 3 | 3 | 20 | 1970.16 | 8 | 9.8 | (29) | 87.1 | | | | 2 | L | 3 | 12.7 | 63.3 | 5 | 0.084 | 13.9 |
| 24012 | Culberson | IH10 | 3 | 2 | 16 | 1970.16 | 8 | 1.2 | (27) | 87.1 | | | | 2 | L | 3 | 12.7 | 63.3 | 5 | 0.084 | 13.9 |
| 24014 | Culberson | IH10 | 3 | 2 | 17 | 1971.99 | 8 | 12.0 | (27) | 87.1 | | | | 2 | L | 3 | 12.7 | 58.6 | 12 | 0.065 | 13.9 |
| 24015 | Culberson | IH10 | 3 | 1 | 18 | 1971.99 | 8 | 0.4 | (33) | 87.1 | | | | 2 | L | 3 | 12.7 | 58.6 | 12 | 0.065 | 13.9 |
| 24020 | Culberson | IH10 | 3 | 1 | 23 | 1974.33 | 8 | 11.4 | (33) | 87.1 | | | | 1 | L | 3 | 12.7 | 89.25 | 16 | 0.204 | 13.9 |
| 24022 | Culberson | IH10 | 2 | 11 | 25 | 1975.84 | 8 | 2.0 | () | | | | | 1 | L | 3 | 12.7 | 69.2 | 3.95 | 0.08 | 13.9 |
| 24023 | Culberson | IH10 | 3 | 1 | 22 | 1975.84 | 8 | 1.6 | (33) | 87.1 | | | | 1 | L | 3 | 12.7 | 69.2 | 3.95 | 0.08 | 13.9 |
| 24027 | ElPaso | US54 | 167 | 1 | 41 | 1980.08 | 8 | 1.3 | () | | | | | 2 | L | 3 | 12.7 | 59.6 | 16 | 0.06 | 8.6 |
| 24028 | ElPaso | US54 | 167 | 1 | 40 | 1980.08 | 8 | 3.2 | () | | | | | 2 | L | 3 | 12.7 | 59.6 | 16 | 0.06 | 8.6 |
| 24029 | ElPaso | US54 | 167 | 1 | 35 | 1978.75 | 8 | 2.2 | () | | | | | 2 | L | 3 | 12.7 | 74.7 | 14 | 0.067 | 8.6 |
| 24030 | ElPaso | US54 | 167 | 1 | 24 | 1973.75 | 8 | 0.2 | () | | | | | 2 | L | 3 | 12.7 | 81.7 | 10.04 | 0.105 | 8.6 |
| 24031 | ElPaso | US54 | 167 | 1 | 25 | 1973.75 | 8 | 0.1 | () | | | | | 2 | H | 3 | 12.7 | 81.7 | 10.04 | 0.105 | 8.6 |
| 24032 | ElPaso | US54 | 167 | 4 | 3 | 1981.16 | 8 | 0.6 | () | | | | | 2 | H | 3 | 12.7 | 63.2 | 10.95 | 0.075 | 8.6 |
| 24091 | | | | | | | | | | | | | | | | | | | | | |

| Project | County | Hwy | Cntrl | Sec | Job | Constr. Date | D | Len | Rehab Job(s) | Overlay Dates 1st | 2nd | 3rd | 4th | Coarse Agg. | Swell | Sub Base | Ann. MinT | Construction HiT | LowT | Evap | Ann. Rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24100 | Missing | | | | | | | | | | | | | | | | | | | | |
| 24101 | Missing | | | | | | | | | | | | | | | | | | | | |
| 24200 | Missing | | | | | | | | | | | | | | | | | | | | |
| 24300 | Missing | | | | | | | | | | | | | | | | | | | | |
| 25001 | Wheeler | IH40 | 275 | 12 | 20 | 1968.50 | 8 | 13.6 | () | | | | | 3 | L | 1 | -2.25 | 87.7 | 3 | 0.155 | 21.9 |
| 25002 | Wheeler | IH40 | 275 | 13 | 24 | 1970.42 | 8 | 12.0 | (43) | | | | | 3 | H | 1 | -2.25 | 86.7 | -2 | 0.055 | 21.9 |
| 25003 | Wheeler | IH40 | 275 | 12 | 31 | 1973.50 | 8 | 2.4 | () | | | | | 3 | L | 1 | -2.25 | 89.7 | 3 | 0.172 | 21.9 |
| 25004 | Wheeler | IH40 | 275 | 13 | 29 | 1973.50 | 8 | 1.4 | () | | | | | 3 | L | 1 | -2.25 | 89.7 | 3 | 0.0172 | 21.9 |
| 25005 | Wheeler | IH40 | 275 | 13 | 33 | 1975.00 | 8 | 0.6 | () | | | | | 3 | L | 1 | -2.25 | 47.4 | 1.05 | 0.052 | 21.9 |

# Appendix F.
# MS Access Report Condition Survey Data
# (pages 1–14 of 137)

# Texas Rigid Pavement Database
## Pavement Condition Survey Records

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1001 | 1 | W | 2000 | 010500 | Y | G | N | 1000 | 134-0.2 | 134-0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1001 | 1 | W | 1996 | 022996 | Y | C | T | 1000 | 133.8 | 133.6 | 0 | 0 | 0 | | 1 | 0 | 0 | 0 | 0 | |
| 1001 | 1 | W | 1994 | 041894 | Y | C | T | 1000 | MP 133.8 | MP 133.6 | | | 0 | 0 | 1 | | | | | |
| 1001 | 1 | W | 1987 | 082087 | Y | C | N | 1000 | MILE 133.8 | MILE 133.6 | | | 0 | 0 | 0 | | | | | |
| 1001 | 1 | W | 1984 | 082087 | | C | N | 1000 | MILE 133.8 | MILE 133.6 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 1 | W | 1982 | 082087 | | C | N | 1000 | MILE 133.8 | MILE 133.6 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 1 | W | 1980 | 082087 | | C | N | 1000 | MILE 133.8 | MILE 133.6 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 1 | W | 1978 | 082087 | | C | N | 1000 | MILE 133.8 | MILE 133.6 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 1 | W | 1974 | 082087 | | C | N | 1000 | MILE 133.8 | MILE 133.6 | | | | | | | | | | |
| 1001 | 2 | W | 2000 | 010500 | Y | F | N | 1000 | 134-0.5 | 134-0.7 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 1001 | 2 | W | 1996 | 022996 | Y | T | C | 1000 | 133.5 | 133.3 | 0 | 0 | 1 | | 1 | 0 | 0 | 0 | 0 | |
| 1001 | 2 | W | 1994 | 041894 | Y | T | C | 1000 | 133.5 | 133.3 | | | 0 | 0 | 7 | | | | | |
| 1001 | 2 | W | 1987 | 082087 | Y | T | Y | 1000 | MILE 133.5 | MILE 133.3 | | | 0 | 0 | 0 | | | | | |
| 1001 | 2 | W | 1984 | 082087 | | T | Y | 1000 | MILE 133.5 | MILE 133.3 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 2 | W | 1982 | 082087 | | T | Y | 1000 | MILE 133.5 | MILE 133.3 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 2 | W | 1980 | 082087 | | T | Y | 1000 | MILE 133.5 | MILE 133.3 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 2 | W | 1978 | 082087 | | T | Y | 1000 | MILE 133.5 | MILE 133.3 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 2 | W | 1974 | 082087 | | T | Y | 1000 | MILE 133.5 | MILE 133.3 | | | | | | | | | | |
| 1001 | 3 | W | 2000 | 010500 | Y | G | N | 1000 | 133-0.3 | 133-0.5 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1001 | 3 | W | 1996 | 022996 | Y | G | T | 1000 | 132.7 | 132.5 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | |
| 1001 | 3 | W | 1994 | 041894 | Y | G | T | 1000 | 132.7 | 132.5 | | | 0 | 0 | 1 | | | | | |
| 1001 | 3 | W | 1987 | 082087 | Y | G | N | 1000 | MILE 132.7 | MILE 132.5 | | | 0 | 0 | 0 | | | | | |
| 1001 | 3 | W | 1984 | 082087 | | G | N | 1000 | MILE 132.7 | MILE 132.5 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 3 | W | 1982 | 082087 | | G | N | 1000 | MILE 132.7 | MILE 132.5 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 3 | W | 1980 | 082087 | | G | N | 1000 | MILE 132.7 | MILE 132.5 | 2 | 1 | 0 | 0 | | | | | | |
| 1001 | 3 | W | 1978 | 082087 | | G | N | 1000 | MILE 132.7 | MILE 132.5 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 3 | W | 1974 | 082087 | | G | N | 1000 | MILE 132.7 | MILE 132.5 | | | | | | | | | | |
| 1001 | 4 | W | 2000 | 010500 | Y | C | N | 1000 | 132-0.45 | 132-0.65 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| 1001 | 4 | W | 1996 | 022996 | Y | C | T | 1000 | 131.5 | 131.3 | 0 | 0 | 0 | | 2 | 0 | 0 | 0 | 0 | |
| 1001 | 4 | W | 1994 | 041894 | Y | C | T | 1000 | MP 131.6 | MP 131.4 | | | 0 | 0 | 1 | | | | | |
| 1001 | 4 | W | 1987 | 082087 | Y | C | N | 1000 | MILE 131.6 | MILE 131.4 | | | 0 | 0 | 0 | | | | | |
| 1001 | 4 | W | 1984 | 082087 | | C | N | 1000 | MILE 131.6 | MILE 131.4 | 0 | 1 | 2 | 0 | | | | | | |
| 1001 | 4 | W | 1982 | 082087 | | C | N | 1000 | MILE 131.6 | MILE 131.4 | 3 | 0 | 1 | 0 | | | | | | |
| 1001 | 4 | W | 1980 | 082087 | | C | N | 1000 | MILE 131.6 | MILE 131.4 | 1 | 0 | 1 | 0 | | | | | | |
| 1001 | 4 | W | 1978 | 082087 | | C | N | 1000 | MILE 131.6 | MILE 131.4 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 4 | W | 1974 | 082087 | | C | N | 1000 | MILE 131.6 | MILE 131.4 | | | | | | | | | | |
| 1001 | 5 | W | 2000 | 010500 | Y | F | N | 1000 | 131-0.6 | 131-0.8 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 |
| 1001 | 5 | W | 1996 | 022996 | Y | F | C | 1000 | 130.4 | 130.2 | 0 | 0 | 0 | | 1 | 0 | 0 | 0 | 0 | |
| 1001 | 5 | W | 1994 | 041894 | Y | F | C | 1000 | 130.4 | 130.2 | | | 0 | 0 | 2 | | | | | |
| 1001 | 5 | W | 1987 | 082087 | Y | F | Y | 1000 | MILE 130.4 | MILE 130.2 | | | 0 | 0 | 0 | | | | | |
| 1001 | 5 | W | 1984 | 082087 | | F | Y | 1000 | MILE 130.4 | MILE 130.2 | 0 | 0 | 0 | 0 | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1001 | 5 | W | 1982 | 082087 | | F | Y | 1000 | MILE 130.4 | MILE 130.2 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 5 | W | 1980 | 082087 | | F | Y | 1000 | MILE 130.4 | MILE 130.2 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 5 | W | 1978 | 082087 | | F | Y | 1000 | MILE 130.4 | MILE 130.2 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 5 | W | 1974 | 082087 | | F | Y | 1000 | MILE 130.4 | MILE 130.2 | | | | | | | | | | |
| 1001 | 6 | W | 2000 | 010500 | Y | T | N | 1000 | 130+0 | 130-0.2 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| 1001 | 6 | W | 1996 | 022996 | Y | F | T | 1000 | 130 | 129.8 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | |
| 1001 | 6 | W | 1994 | 041894 | Y | F | T | 1000 | NEAR 130 | 129.8 | | | 0 | 0 | 0 | | | | | |
| 1001 | 6 | W | 1987 | 082087 | Y | F | N | 1000 | JUST AFTER MP 130 | MP 129.8 | | | 0 | 0 | 0 | | | | | |
| 1001 | 6 | W | 1984 | 082087 | | F | N | 1000 | JUST AFTER MP 130 | MP 129.8 | 0 | 0 | 1 | 0 | | | | | | |
| 1001 | 6 | W | 1982 | 082087 | | F | N | 1000 | JUST AFTER MP 130 | MP 129.8 | 1 | 0 | 0 | 0 | | | | | | |
| 1001 | 6 | W | 1980 | 082087 | | F | N | 1000 | JUST AFTER MP 130 | MP 129.8 | 1 | 0 | 0 | 0 | | | | | | |
| 1001 | 6 | W | 1978 | 082087 | | F | N | 1000 | JUST AFTER MP 130 | MP 129.8 | 0 | 0 | 0 | 0 | | | | | | |
| 1001 | 6 | W | 1974 | 082087 | | F | N | 1000 | JUST AFTER MP 130 | MP 129.8 | | | | | | | | | | |
| 1003 | 1 | W | 2000 | 010500 | Y | G | N | 1000 | 143-0.8 | 143-1 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0.18 | 0 | 0 |
| 1003 | 1 | W | 1996 | 022996 | Y | G | T | 1000 | 142.2 | 142 | 0 | 0 | 1 | | 1 | 0 | 0 | 0 | 0 | |
| 1003 | 1 | W | 1994 | 071394 | Y | G | T | 1000 | 142.2 | 142.0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | |
| 1003 | 1 | W | 1987 | 082087 | Y | G | N | 1000 | 1000 FT E OF MP 142 | MP 142 | | | 0 | 0 | 0 | | | | | |
| 1003 | 1 | W | 1984 | 082087 | | G | N | 1000 | 1000 FT E OF MP 142 | MP 142 | 0 | 0 | 5 | 0 | | | | | | |
| 1003 | 1 | W | 1982 | 082087 | | G | N | 1000 | 1000 FT E OF MP 142 | MP 142 | 7 | 0 | 2 | 0 | | | | | | |
| 1003 | 1 | W | 1980 | 082087 | | G | N | 1000 | 1000 FT E OF MP 142 | MP 142 | 6 | 0 | 3 | 0 | | | | | | |
| 1003 | 1 | W | 1978 | 082087 | | G | N | 1000 | 1000 FT E OF MP 142 | MP 142 | 0 | 0 | 0 | 0 | | | | | | |
| 1003 | 1 | W | 1974 | 082087 | | G | N | 1000 | 1000 FT E OF MP 142 | MP 142 | | | | | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1003 | 2 | W | 2000 | 010500 | Y | G | N | 1000 | 142-0.8 | 142-1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0.07 | 0 | 0 |
| 1003 | 2 | W | 1996 | 022996 | Y | C | T | 1000 | 141.2 | 141 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | 1 | |
| 1003 | 2 | W | 1994 | 071394 | Y | C | T | 1000 | 141.2 | 141.0 | 0 | 0 | 0 | | 0 | 0 | 0 | 50 | 0 | |
| 1003 | 2 | W | 1987 | 082087 | Y | C | N | 1000 | 1000 FT E OF MP 141 | APPROX MP 141 | 0 | 0 | 0 | 0 | 0 | | | | | |
| 1003 | 2 | W | 1984 | 082087 | | C | N | 1000 | 1000 FT E OF MP 141 | APPROX MP 141 | 0 | 0 | 0 | 0 | | | | | | |
| 1003 | 2 | W | 1982 | 082087 | | C | N | 1000 | 1000 FT E OF MP 141 | APPROX MP 141 | 2 | 0 | 0 | 0 | | | | | | |
| 1003 | 2 | W | 1980 | 082087 | | C | N | 1000 | 1000 FT E OF MP 141 | APPROX MP 141 | 3 | 0 | 0 | 0 | | | | | | |
| 1003 | 2 | W | 1978 | 082087 | | C | N | 1000 | 1000 FT E OF MP 141 | APPROX MP 141 | 0 | 0 | 0 | 0 | | | | | | |
| 1003 | 2 | W | 1974 | 082087 | | C | N | 1000 | 1000 FT E OF MP 141 | APPROX MP 141 | | | | | | | | | | |
| 1003 | 3 | W | 2000 | 010500 | Y | G | N | 1000 | 141-0.8 | 141-1 | 0 | 0 | 4 | 0 | 8 | 0 | 0 | 0 | 0 | 0 |
| 1003 | 3 | W | 1994 | 071394 | Y | F | T | 1000 | 140.1 | 139.9 | 1 | 0 | 1 | | 3 | 0 | 0 | 0 | 0 | |
| 1003 | 3 | W | 1987 | 082087 | Y | F | N | 1000 | 500 FT E OF MP 140 | 500 FT W OF MP 140 | | | 0 | 0 | 0 | | | | | |
| 1003 | 3 | W | 1984 | 082087 | | F | N | 1000 | 500 FT E OF MP 140 | 500 FT W OF MP 140 | 0 | 0 | 0 | 0 | | | | | | |
| 1003 | 3 | W | 1982 | 082087 | | F | N | 1000 | 500 FT E OF MP 140 | 500 FT W OF MP 140 | 0 | 0 | 2 | 0 | | | | | | |
| 1003 | 3 | W | 1980 | 082087 | | F | N | 1000 | 500 FT E OF MP 140 | 500 FT W OF MP 140 | 4 | 0 | 2 | 0 | | | | | | |
| 1003 | 3 | W | 1978 | 082087 | | F | N | 1000 | 500 FT E OF MP 140 | 500 FT W OF MP 140 | 2 | 0 | 1 | 0 | | | | | | |
| 1003 | 3 | W | 1974 | 082087 | | F | N | 1000 | 500 FT E OF MP 140 | 500 FT W OF MP 140 | | | | | | | | | | |
| 1003 | 4 | W | 2000 | 010500 | Y | F | N | 1000 | 140-0.25 | 140-0.45 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| 1003 | 4 | W | 1996 | 022996 | Y | F | T | 1000 | 139.8 | 139.6 | 0 | 0 | 1 | | 1 | 0 | 0 | 0 | 0 | |
| 1003 | 4 | W | 1994 | 071394 | Y | F | T | 1000 | 139.8 | 139.6 | 2 | 0 | 2 | | 4 | 0 | 0 | 0 | 0 | |
| 1003 | 4 | W | 1987 | 082087 | Y | F | N | 1000 | MILE 139.8 | MILE 139.6 | | | 0 | 0 | 0 | | | | | |
| 1003 | 4 | W | 1984 | 082087 | | F | N | 1000 | MILE 139.8 | MILE 139.6 | 0 | 0 | 0 | 0 | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1003 | 4 | W | 1982 | 082087 | | F | N | 1000 | MILE 139.8 | MILE 139.6 | 0 | 0 | 1 | 0 | | | | | | |
| 1003 | 4 | W | 1980 | 082087 | | F | N | 1000 | MILE 139.8 | MILE 139.6 | 5 | 0 | 0 | 0 | | | | | | |
| 1003 | 4 | W | 1978 | 082087 | | F | N | 1000 | MILE 139.8 | MILE 139.6 | 3 | 0 | 0 | 0 | | | | | | |
| 1003 | 4 | W | 1974 | 082087 | | F | N | 1000 | MILE 139.8 | MILE 139.6 | | | | | | | | | | |
| 1003 | 5 | W | 2000 | 010500 | Y | F | N | 1000 | 139+0.36 | 139+0.16 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 1003 | 5 | W | 1996 | 022996 | Y | T | T | 1000 | 139.4 | 139.2 | 1 | 0 | 1 | | 1 | 0 | 0 | 0 | 0 | |
| 1003 | 5 | W | 1994 | 071394 | Y | T | T | 1000 | 139.4 | 139.2 | 0 | 0 | 0 | | 2 | 0 | 0 | 0 | 0 | |
| 1003 | 5 | W | 1987 | 082087 | Y | T | N | 1000 | MILE 139.4 | MILE 139.2 | | | 0 | 0 | 0 | | | | | |
| 1003 | 5 | W | 1984 | 082087 | | T | N | 1000 | MILE 139.4 | MILE 139.2 | 0 | 0 | 2 | 0 | | | | | | |
| 1003 | 5 | W | 1982 | 082087 | | T | N | 1000 | MILE 139.4 | MILE 139.2 | 0 | 0 | 0 | 0 | | | | | | |
| 1003 | 5 | W | 1980 | 082087 | | T | N | 1000 | MILE 139.4 | MILE 139.2 | 0 | 0 | 0 | 0 | | | | | | |
| 1003 | 5 | W | 1978 | 082087 | | T | N | 1000 | MILE 139.4 | MILE 139.2 | 0 | 0 | 0 | 0 | | | | | | |
| 1003 | 5 | W | 1974 | 082087 | | T | N | 1000 | MILE 139.4 | MILE 139.2 | | | | | | | | | | |
| 1003 | 6 | W | 2000 | 010500 | Y | G | N | 1000 | 139-0.65 | 139-0.85 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 1003 | 6 | W | 1996 | 022996 | Y | C | T | 1000 | 138.4 | 138.2 | 0 | 0 | 1 | | 2 | 0 | 0 | 0 | 0 | |
| 1003 | 6 | W | 1994 | 071394 | Y | C | T | 1000 | 138.4 | 138.2 | 0 | 0 | 0 | | 2 | 0 | 0 | 0 | 0 | |
| 1003 | 6 | W | 1987 | 082087 | Y | C | N | 1000 | 138.4 | 138.2 | | | 0 | 0 | 0 | | | | | |
| 1003 | 6 | W | 1984 | 082087 | | C | N | 1000 | 138.4 | 138.2 | 1 | 0 | 1 | 0 | | | | | | |
| 1003 | 6 | W | 1982 | 082087 | | C | N | 1000 | 138.4 | 138.2 | 0 | 0 | 1 | 0 | | | | | | |
| 1003 | 6 | W | 1980 | 082087 | | C | N | 1000 | 138.4 | 138.2 | 1 | 0 | 1 | 0 | | | | | | |
| 1003 | 6 | W | 1978 | 082087 | | C | N | 1000 | 138.4 | 138.2 | 0 | 0 | 1 | 0 | | | | | | |
| 1003 | 6 | W | 1974 | 082087 | | C | N | 1000 | 138.4 | 138.2 | | | | | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1005 | 1 | W | 2000 | 010500 | Y | C | N | 1000 | 153+0 | 153-0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1005 | 1 | W | 1996 | 022996 | Y | F | T | 1000 | 153 | 152.8 | 0 | 0 | 7 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 1 | W | 1994 | 071394 | Y | F | T | 1000 | 153.0 | 152.8 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 1 | W | 1987 | 082087 | Y | C | N | 1000 | MP 153 | 1000 FT W OF 153 | | | 0 | 0 | 0 | | | | | |
| 1005 | 1 | W | 1984 | 082087 | | C | N | 1000 | MP 153 | 1000 FT W OF 153 | | | | | | | | | | |
| 1005 | 1 | W | 1982 | 082087 | | C | N | 1000 | MP 153 | 1000 FT W OF 153 | 1 | 0 | 0 | 0 | | | | | | |
| 1005 | 1 | W | 1980 | 082087 | | C | N | 1000 | MP 153 | 1000 FT W OF 153 | 0 | 0 | 0 | 0 | | | | | | |
| 1005 | 1 | W | 1978 | 082087 | | C | N | 1000 | MP 153 | 1000 FT W OF 153 | 0 | 0 | 0 | 0 | | | | | | |
| 1005 | 1 | W | 1974 | 082087 | | C | N | 1000 | MP 153 | 1000 FT W OF 153 | | | | | | | | | | |
| 1005 | 2 | W | 2000 | 010500 | Y | G | N | 1000 | 152+0 | 152-0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1005 | 2 | W | 1996 | 022996 | Y | F | T | 1000 | 152 | 151.8 | 0 | 0 | 4 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 2 | W | 1994 | 071394 | Y | F | T | 1000 | 152.0 | 151.8 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 2 | W | 1987 | 082087 | Y | F | N | 1000 | MP 152 | 1000 FT W OF 152 | | | 0 | 0 | 0 | | | | | |
| 1005 | 2 | W | 1984 | 082087 | | F | N | 1000 | MP 152 | 1000 FT W OF 152 | | | | | | | | | | |
| 1005 | 2 | W | 1982 | 082087 | | F | N | 1000 | MP 152 | 1000 FT W OF 152 | 2 | 0 | 0 | 0 | | | | | | |
| 1005 | 2 | W | 1980 | 082087 | | F | N | 1000 | MP 152 | 1000 FT W OF 152 | 2 | 0 | 0 | 0 | | | | | | |
| 1005 | 2 | W | 1978 | 082087 | | F | N | 1000 | MP 152 | 1000 FT W OF 152 | 0 | 0 | 0 | 0 | | | | | | |
| 1005 | 2 | W | 1974 | 082087 | | F | N | 1000 | MP 152 | 1000 FT W OF 152 | | | | | | | | | | |
| 1005 | 3 | W | 2000 | 010500 | Y | F | N | 1000 | 152-0.3 | 152-0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1005 | 3 | W | 1996 | 022996 | Y | T | T | 1000 | 151.7 | 151.5 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 3 | W | 1994 | 071394 | Y | T | T | 1000 | 151.7 | 151.5 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 3 | W | 1987 | 082087 | Y | T | N | 1000 | 0.3 MI W OF 152 | 0.5 MI W OF 152 | | | 0 | 0 | 0 | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1005 | 3 | W | 1984 | 082087 | | T | N | 1000 | 0.3 MI W OF 152 | 0.5 MI W OF 152 | | | | | | | | | | |
| 1005 | 3 | W | 1982 | 082087 | | T | N | 1000 | 0.3 MI W OF 152 | 0.5 MI W OF 152 | 3 | 0 | 0 | 0 | | | | | | |
| 1005 | 3 | W | 1980 | 082087 | | T | N | 1000 | 0.3 MI W OF 152 | 0.5 MI W OF 152 | 2 | 0 | 0 | 0 | | | | | | |
| 1005 | 3 | W | 1978 | 082087 | | T | N | 1000 | 0.3 MI W OF 152 | 0.5 MI W OF 152 | 0 | 0 | 0 | 0 | | | | | | |
| 1005 | 3 | W | 1974 | 082087 | | T | N | 1000 | 0.3 MI W OF 152 | 0.5 MI W OF 152 | | | | | | | | | | |
| 1005 | 4 | W | 1996 | 022996 | Y | F | T | 1000 | 151.3 | 151.1 | 0 | 0 | 4 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 4 | W | 1994 | 071394 | Y | F | T | 1000 | 151.3 | 151.1 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 4 | W | 1987 | 082087 | Y | F | N | 1000 | 0.3 MI E OF 151 | 0.1 MI E OF 151 | | | 0 | 0 | 0 | | | | | |
| 1005 | 4 | W | 1984 | 082087 | | F | N | 1000 | 0.3 MI E OF 151 | 0.1 MI E OF 151 | | | | | | | | | | |
| 1005 | 4 | W | 1982 | 082087 | | F | N | 1000 | 0.3 MI E OF 151 | 0.1 MI E OF 151 | 1 | 0 | 1 | 0 | | | | | | |
| 1005 | 4 | W | 1980 | 082087 | | F | N | 1000 | 0.3 MI E OF 151 | 0.1 MI E OF 151 | 0 | 0 | 1 | 0 | | | | | | |
| 1005 | 4 | W | 1978 | 082087 | | F | N | 1000 | 0.3 MI E OF 151 | 0.1 MI E OF 151 | 0 | 0 | 0 | 0 | | | | | | |
| 1005 | 4 | W | 1974 | 082087 | | F | N | 1000 | 0.3 MI E OF 151 | 0.1 MI E OF 151 | | | | | | | | | | |
| 1005 | 5 | W | 2000 | 010500 | Y | G | N | 1000 | 151+0 | 151-0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1005 | 5 | W | 1996 | 022996 | Y | G | T | 1000 | 151 | 150.8 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 5 | W | 1994 | 071394 | Y | G | T | 1000 | 151.0 | 150.8 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | 0 | |
| 1005 | 5 | W | 1987 | 082087 | Y | G | N | 1000 | MP 151 | 1000 FT W OF 151 | | | 0 | 0 | 0 | | | | | |
| 1005 | 5 | W | 1984 | 082087 | | G | N | 1000 | MP 151 | 1000 FT W OF 151 | | | | | | | | | | |
| 1005 | 5 | W | 1982 | 082087 | | G | N | 1000 | MP 151 | 1000 FT W OF 151 | 1 | 0 | 0 | 0 | | | | | | |
| 1005 | 5 | W | 1980 | 082087 | | G | N | 1000 | MP 151 | 1000 FT W OF 151 | 0 | 0 | 0 | 0 | | | | | | |
| 1005 | 5 | W | 1978 | 082087 | | G | N | 1000 | MP 151 | 1000 FT W OF 151 | 0 | 0 | 0 | 0 | | | | | | |
| 1005 | 5 | W | 1974 | 082087 | | G | N | 1000 | MP 151 | 1000 FT W OF 151 | | | | | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1005 | 6 | E | 2000 | 010500 | Y | G | N | 1000 | 149+0 | 149+0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1005 | 6 | E | 1996 | 022996 | Y | C | T | 1000 | 149 | 149.2 | 0 | 0 | 3 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 6 | E | 1994 | 071394 | Y | C | T | 1000 | 149.0 | 149.2 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | 0 | |
| 1005 | 6 | E | 1987 | 082087 | Y | C | N | 1000 | MP 149 | 1000 FT E OF 149 | | | 0 | 0 | 0 | | | | | |
| 1005 | 6 | E | 1984 | 082087 | | C | N | 1000 | MP 149 | 1000 FT E OF 149 | | | | | | | | | | |
| 1005 | 6 | E | 1982 | 082087 | | C | N | 1000 | MP 149 | 1000 FT E OF 149 | 2 | 0 | 1 | 0 | | | | | | |
| 1005 | 6 | E | 1980 | 082087 | | C | N | 1000 | MP 149 | 1000 FT E OF 149 | 3 | 0 | 1 | 0 | | | | | | |
| 1005 | 6 | E | 1978 | 082087 | | C | N | 1000 | MP 149 | 1000 FT E OF 149 | 2 | 0 | 0 | 0 | | | | | | |
| 1005 | 6 | E | 1974 | 082087 | | C | N | 1000 | MP 149 | 1000 FT E OF 149 | | | | | | | | | | |
| 1008 | 1 | S | 2000 | 010500 | Y | G | N | 1000 | 216-0.05 | 216+0.15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1008 | 1 | S | 1994 | 061693 | Y | F | T | 1000 | 500' N OF RM216 | 500' S OF RM216 | | | 0 | 0 | 1 | | | | | |
| 1008 | 1 | S | 1987 | 081987 | Y | G | N | 1000 | 500 FT N OF 24 | 500 FT S OF 24 | | | 0 | 0 | 0 | | | | | |
| 1008 | 1 | S | 1984 | 081987 | | G | N | 1000 | 500 FT N OF 24 | 500 FT S OF 24 | 0 | 0 | 2 | 0 | | | | | | |
| 1008 | 1 | S | 1982 | 081987 | | G | N | 1000 | 500 FT N OF 24 | 500 FT S OF 24 | 2 | 0 | 0 | 0 | | | | | | |
| 1008 | 1 | S | 1980 | 081987 | | G | N | 1000 | 500 FT N OF 24 | 500 FT S OF 24 | 1 | 0 | 3 | 0 | | | | | | |
| 1008 | 1 | S | 1978 | 081987 | | G | N | 1000 | 500 FT N OF 24 | 500 FT S OF 24 | 0 | 0 | 0 | 0 | | | | | | |
| 1008 | 1 | S | 1974 | 081987 | | G | N | 1000 | 500 FT N OF 24 | 500 FT S OF 24 | 0 | 0 | 0 | 0 | | | | | | |
| 1008 | 2 | S | 2000 | 010500 | Y | T | N | 1000 | 218+0.4 | 218+0.6 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| 1008 | 2 | S | 1994 | 061693 | Y | F | T | 1000 | 0.4 MI S OF RM218 | 1000' S | | | 0 | 0 | 18 | | | | | |
| 1008 | 2 | S | 1987 | 081987 | Y | F | N | 800 | 4.4 MI S OF MP 22 | 4.6 MI S OF MP 22 | | | 0 | 0 | 0 | | | | | |
| 1008 | 2 | S | 1984 | 081987 | | F | N | 800 | 4.4 MI S OF MP 22 | 4.6 MI S OF MP 22 | 0 | 0 | 0 | 0 | | | | | | |
| 1008 | 2 | S | 1982 | 081987 | | F | N | 800 | 4.4 MI S OF MP 22 | 4.6 MI S OF MP 22 | 1 | 0 | 1 | 0 | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1008 | 2 | S | 1980 | 081987 | | F | N | 800 | 4.4 MI S OF MP 22 | 4.6 MI S OF MP 22 | 0 | 0 | 1 | 0 | | | | | | |
| 1008 | 2 | S | 1978 | 081987 | | F | N | 800 | 4.4 MI S OF MP 22 | 4.6 MI S OF MP 22 | 1 | 1 | 0 | 0 | | | | | | |
| 1008 | 2 | S | 1974 | 081987 | | F | N | 800 | 4.4 MI S OF MP 22 | 4.6 MI S OF MP 22 | 0 | 0 | 0 | 0 | | | | | | |
| 1008 | 3 | S | 2000 | 010500 | Y | G | N | 1000 | 218+1.95 | 220+0.1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1008 | 3 | S | 1994 | 061693 | Y | C | T | 1000 | 300' N OF RM220 | 700' S OF RM220 | | | 0 | 0 | 16 | | | | | |
| 1008 | 3 | S | 1987 | 081987 | Y | C | N | 1000 | 300 FT N OF 28 | 700 FT S OF 28 | | | 0 | 0 | 0 | | | | | |
| 1008 | 3 | S | 1984 | 081987 | | C | N | 1000 | 300 FT N OF 28 | 700 FT S OF 28 | 0 | 0 | 2 | 0 | | | | | | |
| 1008 | 3 | S | 1982 | 081987 | | C | N | 1000 | 300 FT N OF 28 | 700 FT S OF 28 | 8 | 2 | 3 | 0 | | | | | | |
| 1008 | 3 | S | 1980 | 081987 | | C | N | 1000 | 300 FT N OF 28 | 700 FT S OF 28 | 0 | 0 | 2 | 0 | | | | | | |
| 1008 | 3 | S | 1978 | 081987 | | C | N | 1000 | 300 FT N OF 28 | 700 FT S OF 28 | 1 | 0 | 1 | 0 | | | | | | |
| 1008 | 3 | S | 1974 | 081987 | | C | N | 1000 | 300 FT N OF 28 | 700 FT S OF 28 | 0 | 0 | 0 | 0 | | | | | | |
| 1008 | 4 | N | 1994 | 061693 | Y | C | T | 1000 | 1.4 MI N OF RM222 | 1000' N | | | 3 | 0 | 0 | | | | | |
| 1008 | 4 | N | 1987 | 081987 | Y | C | N | 1000 | 0.4 MI N MP 29 | 0.6 MI N MP 29 | | | 0 | 0 | 0 | | | | | |
| 1008 | 4 | N | 1984 | 081987 | | C | N | 1000 | 0.4 MI N MP 29 | 0.6 MI N MP 29 | 0 | 0 | 2 | 0 | | | | | | |
| 1008 | 4 | N | 1982 | 081987 | | C | N | 1000 | 0.4 MI N MP 29 | 0.6 MI N MP 29 | 3 | 0 | 1 | 0 | | | | | | |
| 1008 | 4 | N | 1980 | 081987 | | C | N | 1000 | 0.4 MI N MP 29 | 0.6 MI N MP 29 | 3 | 0 | 2 | 0 | | | | | | |
| 1008 | 4 | N | 1978 | 081987 | | C | N | 1000 | 0.4 MI N MP 29 | 0.6 MI N MP 29 | 0 | 0 | 0 | 0 | | | | | | |
| 1008 | 4 | N | 1974 | 081987 | | C | N | 1000 | 0.4 MI N MP 29 | 0.6 MI N MP 29 | 0 | 0 | 0 | 0 | | | | | | |
| 1008 | 5 | N | 1994 | 061693 | Y | T | T | 1000 | 1.6 MI N OF RM222 | 1000' N | | | 0 | 0 | 0 | | | | | |
| 1008 | 5 | N | 1987 | 081987 | Y | T | N | 1000 | 1.6 MI N OF MP 30 | 1.8 MI N OF MP 30 | | | 0 | 0 | 0 | | | | | |
| 1008 | 5 | N | 1984 | 081987 | | T | N | 1000 | 1.6 MI N OF MP 30 | 1.8 MI N OF MP 30 | 0 | 0 | 2 | 0 | | | | | | |
| 1008 | 5 | N | 1982 | 081987 | | T | N | 1000 | 1.6 MI N OF MP 30 | 1.8 MI N OF MP 30 | 0 | 0 | 2 | 0 | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1008 | 5 | N | 1980 | 081987 | | T | N | 1000 | 1.6 MI N OF MP 30 | 1.8 MI N OF MP 30 | 0 | 0 | 1 | 0 | | | | | | |
| 1008 | 5 | N | 1978 | 081987 | | T | N | 1000 | 1.6 MI N OF MP 30 | 1.8 MI N OF MP 30 | 0 | 0 | 1 | 0 | | | | | | |
| 1008 | 5 | N | 1974 | 081987 | | T | N | 1000 | 1.6 MI N OF MP 30 | 1.8 MI N OF MP 30 | 1 | 0 | 0 | 0 | | | | | | |
| 1008 | 6 | N | 1994 | 061693 | Y | F | T | 1000 | 1.0 MI N OF RM220 | 10000' NORTH | | | 0 | 0 | 0 | | | | | |
| 1008 | 6 | N | 1987 | 081987 | Y | F | N | 1000 | MILE 27 | 26.8 | | | 0 | 0 | 0 | | | | | |
| 1008 | 6 | N | 1984 | 081987 | | F | N | 1000 | MILE 27 | 26.8 | 0 | 0 | 0 | 0 | | | | | | |
| 1008 | 6 | N | 1982 | 081987 | | F | N | 1000 | MILE 27 | 26.8 | 1 | 0 | 0 | 0 | | | | | | |
| 1008 | 6 | N | 1980 | 081987 | | F | N | 1000 | MILE 27 | 26.8 | 1 | 0 | 0 | 0 | | | | | | |
| 1008 | 6 | N | 1978 | 081987 | | F | N | 1000 | MILE 27 | 26.8 | 1 | 0 | 0 | 0 | | | | | | |
| 1008 | 6 | N | 1974 | 081987 | | F | N | 1000 | MILE 27 | 26.8 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 1 | N | 2000 | 010500 | N | G | N | 1000 | 196-0.7 | 196-0.9 | 0 | 0 | 3 | 0 | 435 | 0 | 0 | 0 | 0 | 19 |
| 1013 | 1 | N | 1994 | 071394 | N | C | T | 1000 | 195.3 | 195.1 | 0 | 0 | 0 | 0 | 425 | | | | | |
| 1013 | 1 | N | 1987 | 082087 | N | C | N | 1000 | 0.3 MI S OF MP 9 | 0.1 MI S OF MP 9 | 72 | 0 | 0 | 0 | 384 | | | | | |
| 1013 | 1 | N | 1984 | 082087 | | C | N | 1000 | 0.3 MI S OF MP 9 | 0.1 MI S OF MP 9 | 0 | 1 | 0 | 0 | | | | | | |
| 1013 | 1 | N | 1982 | 082087 | | C | N | 1000 | 0.3 MI S OF MP 9 | 0.1 MI S OF MP 9 | 1 | 0 | 0 | 0 | | | | | | |
| 1013 | 1 | N | 1980 | 082087 | | C | N | 1000 | 0.3 MI S OF MP 9 | 0.1 MI S OF MP 9 | 1 | 0 | 0 | 0 | | | | | | |
| 1013 | 1 | N | 1978 | 082087 | | C | N | 1000 | 0.3 MI S OF MP 9 | 0.1 MI S OF MP 9 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 1 | N | 1974 | 082087 | | C | N | 1000 | 0.3 MI S OF MP 9 | 0.1 MI S OF MP 9 | 1 | 0 | 0 | 0 | | | | | | |
| 1013 | 2 | N | 2000 | 010500 | N | G | N | 1000 | 194+0.35 | 194+0.15 | 0 | 0 | 1 | 0 | 461 | 0 | 0 | 0 | 0 | 13 |
| 1013 | 2 | N | 1994 | 071394 | N | T | T | 1000 | RM 194.5 | RM 194.3 | 0 | 0 | 0 | 0 | 500 | | | | | |
| 1013 | 2 | N | 1987 | 082087 | N | T | N | 1000 | 0.5 MI N OF MP 9 | 0.7 MI N OF MP 9 | 63 | 0 | 0 | 0 | 448 | | | | | |
| 1013 | 2 | N | 1984 | 082087 | | T | N | 1000 | 0.5 MI N OF MP 9 | 0.7 MI N OF MP 9 | 0 | 0 | 1 | 0 | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1013 | 2 | N | 1982 | 082087 | | T | N | 1000 | 0.5 MI N OF MP 9 | 0.7 MI N OF MP 9 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 2 | N | 1980 | 082087 | | T | N | 1000 | 0.5 MI N OF MP 9 | 0.7 MI N OF MP 9 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 2 | N | 1978 | 082087 | | T | N | 1000 | 0.5 MI N OF MP 9 | 0.7 MI N OF MP 9 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 2 | N | 1974 | 082087 | | T | N | 1000 | 0.5 MI N OF MP 9 | 0.7 MI N OF MP 9 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 3 | N | 2000 | 010500 | N | G | N | 1000 | 194+0.15 | 194-0.05 | 0 | 0 | 1 | 0 | 292 | 0 | 0 | 0 | 0 | 3 |
| 1013 | 3 | N | 1994 | 071394 | N | C | T | 1000 | 194.3 | 194.1 | 0 | 0 | 1 | 0 | 478 | | | | | |
| 1013 | 3 | N | 1987 | 082087 | N | C | N | 1000 | MILE 8.3 | MILE 8.1 | 60 | 0 | 0 | 0 | 432 | | | | | |
| 1013 | 3 | N | 1984 | 082087 | | C | N | 1000 | MILE 8.3 | MILE 8.1 | 0 | 0 | 1 | 0 | | | | | | |
| 1013 | 3 | N | 1982 | 082087 | | C | N | 1000 | MILE 8.3 | MILE 8.1 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 3 | N | 1980 | 082087 | | C | N | 1000 | MILE 8.3 | MILE 8.1 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 3 | N | 1978 | 082087 | | C | N | 1000 | MILE 8.3 | MILE 8.1 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 3 | N | 1974 | 082087 | | C | N | 1000 | MILE 8.3 | MILE 8.1 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 4 | N | 2000 | 010500 | N | G | N | 1000 | 194-0.6 | 194-0.8 | 0 | 0 | 13 | 0 | 401 | 0 | 0 | 0 | 0 | 25 |
| 1013 | 4 | N | 1994 | 071394 | N | G | T | 1000 | 193.4 | 193.2 | 0 | 0 | 0 | 0 | 286 | | | | | |
| 1013 | 4 | N | 1987 | 082087 | N | G | N | 1000 | MILE 7.4 | MILE 7.2 | 7 | 0 | 0 | 0 | 352 | | | | | |
| 1013 | 4 | N | 1984 | 082087 | | G | N | 1000 | MILE 7.4 | MILE 7.2 | 1 | 0 | 11 | 0 | | | | | | |
| 1013 | 4 | N | 1982 | 082087 | | G | N | 1000 | MILE 7.4 | MILE 7.2 | 2 | 0 | 0 | 0 | | | | | | |
| 1013 | 4 | N | 1980 | 082087 | | G | N | 1000 | MILE 7.4 | MILE 7.2 | 1 | 0 | 0 | 0 | | | | | | |
| 1013 | 4 | N | 1978 | 082087 | | G | N | 1000 | MILE 7.4 | MILE 7.2 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 4 | N | 1974 | 082087 | | G | N | 1000 | MILE 7.4 | MILE 7.2 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 5 | N | 1994 | 071394 | N | F | T | 1000 | RM 188.9 | RM 189.1 | 0 | 0 | 0 | 0 | 392 | | | | | |
| 1013 | 5 | N | 1987 | 082087 | N | F | N | 1000 | MILE 3.1 | MILE 2.9 | 6 | 0 | 0 | 0 | 336 | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1013 | 5 | N | 1984 | 082087 | | F | N | 1000 | MILE 3.1 | MILE 2.9 | 0 | 1 | 0 | 0 | | | | | | |
| 1013 | 5 | N | 1982 | 082087 | | F | N | 1000 | MILE 3.1 | MILE 2.9 | 1 | 0 | 0 | 0 | | | | | | |
| 1013 | 5 | N | 1980 | 082087 | | F | N | 1000 | MILE 3.1 | MILE 2.9 | 1 | 0 | 0 | 0 | | | | | | |
| 1013 | 5 | N | 1978 | 082087 | | F | N | 1000 | MILE 3.1 | MILE 2.9 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 5 | N | 1974 | 082087 | | F | N | 1000 | MILE 3.1 | MILE 2.9 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 6 | N | 1994 | 071394 | N | F | T | 1000 | 191.8 | 191.6 | 0 | 0 | 0 | 0 | 413 | | | | | |
| 1013 | 6 | N | 1987 | 082087 | N | F | N | 1000 | MILE 5.8 | MILE 5.6 | 26 | 0 | 0 | 0 | 352 | | | | | |
| 1013 | 6 | N | 1984 | 082087 | | F | N | 1000 | MILE 5.8 | MILE 5.6 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 6 | N | 1982 | 082087 | | F | N | 1000 | MILE 5.8 | MILE 5.6 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 6 | N | 1980 | 082087 | | F | N | 1000 | MILE 5.8 | MILE 5.6 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 6 | N | 1978 | 082087 | | F | N | 1000 | MILE 5.8 | MILE 5.6 | 0 | 0 | 0 | 0 | | | | | | |
| 1013 | 6 | N | 1974 | 082087 | | F | N | 1000 | MILE 5.8 | MILE 5.6 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 1 | E | 2000 | 010500 | N | T | N | 1000 | 640+0.5 | 640+0.7 | 0 | 0 | 0 | 0 | 252 | 0 | 0 | 0 | 0 | 0 |
| 1015 | 1 | E | 1994 | 070694 | N | F | T | 1000 | RM 640.5 | 640.7 | 0 | 0 | 0 | 0 | 245 | | | | | |
| 1015 | 1 | E | 1987 | 081987 | N | F | N | 1000 | 0.5 MI E OF MP 18 | 0.7 MI E OF MP 18 | 10 | 0 | 0 | 0 | 224 | | | | | |
| 1015 | 1 | E | 1984 | 081987 | | F | N | 1000 | 0.5 MI E OF MP 18 | 0.7 MI E OF MP 18 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 1 | E | 1982 | 081987 | | F | N | 1000 | 0.5 MI E OF MP 18 | 0.7 MI E OF MP 18 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 1 | E | 1980 | 081987 | | F | N | 1000 | 0.5 MI E OF MP 18 | 0.7 MI E OF MP 18 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 1 | E | 1978 | 081987 | | F | N | 1000 | 0.5 MI E OF MP 18 | 0.7 MI E OF MP 18 | | | | | | | | | | |
| 1015 | 1 | E | 1974 | 081987 | | F | N | 1000 | 0.5 MI E OF MP 18 | 0.7 MI E OF MP 18 | | | | | | | | | | |
| 1015 | 2 | E | 2000 | 010500 | N | G | Y | 1000 | 642-0.45 | 642-0.25 | 0 | 0 | 0 | 0 | 228 | 0 | 0 | 0 | 0 | 1 |
| 1015 | 2 | E | 1994 | 070694 | N | C | C | 1000 | 641.6 | 641.8 | 0 | 0 | 0 | 0 | 200 | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1015 | 2 | E | 1987 | 081987 | N | C | Y | 1000 | 0.6 E OF 19 | 0.2 W OF 20 | 12 | 0 | 0 | 0 | 197 | | | | | |
| 1015 | 2 | E | 1984 | 081987 | | C | Y | 1000 | 0.6 E OF 19 | 0.2 W OF 20 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 2 | E | 1982 | 081987 | | C | Y | 1000 | 0.6 E OF 19 | 0.2 W OF 20 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 2 | E | 1980 | 081987 | | C | Y | 1000 | 0.6 E OF 19 | 0.2 W OF 20 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 2 | E | 1978 | 081987 | | C | Y | 1000 | 0.6 E OF 19 | 0.2 W OF 20 | | | | | | | | | | |
| 1015 | 2 | E | 1974 | 081987 | | C | Y | 1000 | 0.6 E OF 19 | 0.2 W OF 20 | | | | | | | | | | |
| 1015 | 3 | W | 2000 | 010500 | N | G | N | 1000 | 642+.2 | 642+0 | 0 | 0 | 0 | 0 | 220 | 0 | 0 | 0 | 0 | 0 |
| 1015 | 3 | W | 1994 | 070694 | N | C | T | 1000 | 642.2 | 642 | 0 | 0 | 0 | 0 | 217 | | | | | |
| 1015 | 3 | W | 1987 | 081987 | N | C | N | 800 | 0.2 E OF 20 | MP 20 | 6 | 0 | 0 | 0 | 164 | | | | | |
| 1015 | 3 | W | 1984 | 081987 | | C | N | 800 | 0.2 E OF 20 | MP 20 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 3 | W | 1982 | 081987 | | C | N | 800 | 0.2 E OF 20 | MP 20 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 3 | W | 1980 | 081987 | | C | N | 800 | 0.2 E OF 20 | MP 20 | 0 | 0 | 1 | 0 | | | | | | |
| 1015 | 3 | W | 1978 | 081987 | | C | N | 800 | 0.2 E OF 20 | MP 20 | | | | | | | | | | |
| 1015 | 3 | W | 1974 | 081987 | | C | N | 800 | 0.2 E OF 20 | MP 20 | | | | | | | | | | |
| 1015 | 4 | W | 2000 | 010500 | N | G | N | 1000 | 642-1.3 | 642-1.5 | 0 | 0 | 0 | 0 | 217 | 0 | 0 | 0 | 0 | 1 |
| 1015 | 4 | W | 1994 | 070694 | N | T | T | 1000 | 640.7 | 640.5 | 0 | 0 | 0 | 0 | 191 | | | | | |
| 1015 | 4 | W | 1987 | 081987 | N | T | N | 1000 | 0.3 MI W OF 19 | 0.5 MI W OF 19 | 3 | 0 | 0 | 0 | 170 | | | | | |
| 1015 | 4 | W | 1984 | 081987 | | T | N | 1000 | 0.3 MI W OF 19 | 0.5 MI W OF 19 | 0 | 0 | 1 | 0 | | | | | | |
| 1015 | 4 | W | 1982 | 081987 | | T | N | 1000 | 0.3 MI W OF 19 | 0.5 MI W OF 19 | 1 | 0 | 0 | 0 | | | | | | |
| 1015 | 4 | W | 1980 | 081987 | | T | N | 1000 | 0.3 MI W OF 19 | 0.5 MI W OF 19 | 1 | 1 | 0 | 0 | | | | | | |
| 1015 | 4 | W | 1978 | 081987 | | T | N | 1000 | 0.3 MI W OF 19 | 0.5 MI W OF 19 | | | | | | | | | | |
| 1015 | 4 | W | 1974 | 081987 | | T | N | 1000 | 0.3 MI W OF 19 | 0.5 MI W OF 19 | | | | | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1015 | 5 | W | 2000 | 010500 | N | T | N | 1000 | 640+0.2 | 640+0 | 0 | 0 | 0 | 0 | 238 | 0 | 0 | 0 | 0 | 0 |
| 1015 | 5 | W | 1994 | 070694 | N | F | T | 1000 | 640.1 | 639.9 | 0 | 0 | 0 | 0 | 193 | | | | | |
| 1015 | 5 | W | 1987 | 081987 | N | F | N | 800 | 600 FT E OF MP 18 | 400 FT W OF 18 | 7 | 0 | 0 | 0 | 156 | | | | | |
| 1015 | 5 | W | 1984 | 081987 | | F | N | 800 | 600 FT E OF MP 18 | 400 FT W OF 18 | | | | | | | | | | |
| 1015 | 5 | W | 1982 | 081987 | | F | N | 800 | 600 FT E OF MP 18 | 400 FT W OF 18 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 5 | W | 1980 | 081987 | | F | N | 800 | 600 FT E OF MP 18 | 400 FT W OF 18 | 0 | 0 | 0 | 0 | | | | | | |
| 1015 | 5 | W | 1978 | 081987 | | F | N | 800 | 600 FT E OF MP 18 | 400 FT W OF 18 | | | | | | | | | | |
| 1015 | 5 | W | 1974 | 081987 | | F | N | 800 | 600 FT E OF MP 18 | 400 FT W OF 18 | | | | | | | | | | |
| 2002 | 1 | E | 1999 | | N | | T | 1000 | 414+1.1 | 414+1.3 | 0 | 0 | 0 | 0 | 182 | 0 | 0 | | | |
| 2002 | 1 | E | 1994 | 120793 | N | F | T | 1000 | 1000' EAST OF MP 415 | 2000' E OF MP 415 | 0 | 0 | 0 | 0 | 186 | | | | | |
| 2002 | 1 | E | 1987 | 080687 | N | F | N | 1000 | 1000 FT E OF 415 MP | | 9 | 0 | 0 | 0 | 167 | | | | | |
| 2002 | 1 | E | 1984 | 080687 | | F | N | 1000 | 1000 FT E OF 415 MP | | | | | | | | | | | |
| 2002 | 1 | E | 1981 | 080687 | | F | N | 1000 | 1000 FT E OF 415 MP | | 0 | 0 | 0 | 0 | | | | | | |
| 2002 | 2 | E | 1999 | | N | | T | 1000 | 416+0.2 | 416+0.4 | 0 | 0 | 0 | 0 | 176 | 0 | 0 | | | |
| 2002 | 2 | E | 1994 | 120793 | N | C | T | 1000 | 416 + 800 | 416 + 1800 | 0 | 0 | 0 | 0 | 174 | | | | | |
| 2002 | 2 | E | 1987 | 080687 | N | C | N | 1000 | 800 FT FROM MP 416 | | 0 | 0 | 0 | 0 | 167 | | | | | |
| 2002 | 2 | E | 1984 | 080687 | | C | N | 1000 | 800 FT FROM MP 416 | | | | | | | | | | | |
| 2002 | 2 | E | 1981 | 080687 | | C | N | 1000 | 800 FT FROM MP 416 | | 0 | 0 | 0 | 0 | | | | | | |
| 2002 | 3 | E | 1999 | | N | | T | 1000 | 416+0.35 | 416+0.55 | 0 | 0 | 0 | 0 | 189 | 0 | 0 | | | |
| 2002 | 3 | E | 1994 | 120793 | N | C | T | 1000 | 417 - 2500' | 414 - 1500' | 0 | 0 | 0 | 0 | 188 | | | | | |
| 2002 | 3 | E | 1987 | 080687 | N | C | Y | 1000 | | 3/10 MILE W OF 417 | 5 | 0 | 0 | 0 | 168 | | | | | |
| 2002 | 3 | E | 1984 | 080687 | | C | Y | 1000 | | 3/10 MILE W OF 417 | | | | | | | | | | |

| Proj. | Sec | Dir | Year | Date | Ovr | Pos | Crve | Len | Start | End | Min P/O | Sev P/O | ACP Patch | PCC Patch | No. of Cracks | Allig Crack | Block Crack | Pct. Rut | Long Crack | Spall |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2002 | 3 | E | 1981 | 080687 | | C | Y | 1000 | | 3/10 MILE W OF 417 | 0 | 0 | 0 | 0 | | | | | | |
| 2002 | 4 | E | 1999 | | N | | T | 1000 | 417+0.4 | 417+0.6 | 0 | 0 | 0 | 0 | 192 | 0 | 0 | | | |
| 2002 | 4 | E | 1994 | 120793 | N | T | T | 1000 | MP 417 +2000 | MP 417 +3000 | 0 | 0 | 0 | 0 | 185 | | | | | |
| 2002 | 4 | E | 1987 | 080687 | N | T | Y | 1000 | 2000 FT E OF 417 | EXIT 418 | 3 | 0 | 0 | 0 | 174 | | | | | |
| 2002 | 4 | E | 1984 | 080687 | | T | Y | 1000 | 2000 FT E OF 417 | EXIT 418 | | | | | | | | | | |
| 2002 | 4 | E | 1981 | 080687 | | T | Y | 1000 | 2000 FT E OF 417 | EXIT 418 | 0 | 0 | 0 | 0 | | | | | | |
| 2002 | 5 | E | 1999 | | N | | T | 1000 | 417+0.75 | 417+0.95 | 0 | 0 | 0 | 0 | 208 | 0 | 0 | | | |
| 2002 | 5 | E | 1994 | 120793 | N | F | T | 1000 | MP 418 -1000' | MP 418 | 0 | 0 | 0 | 0 | 206 | | | | | |
| 2002 | 5 | E | 1987 | 080687 | N | F | N | 1000 | 1000 FT W OF MP 418 | AT MP 418 | 4 | 0 | 0 | 0 | 193 | | | | | |
| 2002 | 6 | W | 1994 | 120793 | N | C | T | 1000 | PARKER COUNTY LINE | COUNTY LINE -1000' | 0 | 0 | 0 | 0 | 132 | | | | | |
| 2002 | 6 | W | 1987 | 080687 | N | G | N | 1000 | 1000 FT W OF TARRANT COUN | AT COUNTY LINE (END OF PR | 1 | 0 | 0 | 0 | 145 | | | | | |
| 2002 | 6 | W | 1984 | 080687 | | G | N | 1000 | 1000 FT W OF TARRANT COUN | AT COUNTY LINE (END OF PR | | | | | | | | | | |
| 2002 | 6 | W | 1981 | 080687 | | G | N | 1000 | 1000 FT W OF TARRANT COUN | AT COUNTY LINE (END OF PR | 1 | 0 | 0 | 0 | | | | | | |
| 2028 | 1 | N | 1999 | | Y | | T | 1000 | 32+0.4 | 32+0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| 2028 | 1 | N | 1994 | 120993 | N | T | C | 1000 | MP 37 -3000' | MP 37 -2000' | 0 | 0 | 0 | 1 | 169 | | | | | |
| 2028 | 1 | N | 1987 | 080487 | N | C | Y | 1000 | | 4/10 MILE S OF 33 | 15 | 0 | 0 | 1 | 193 | | | | | |
| 2028 | 1 | N | 1984 | 080487 | | C | Y | 1000 | | 4/10 MILE S OF 33 | | | | | | | | | | |
| 2028 | 1 | N | 1981 | 080487 | | C | Y | 1000 | | 4/10 MILE S OF 33 | 1 | 0 | 0 | 0 | | | | | | |
| 2028 | 1 | S | 1999 | | Y | | R | 1000 | 37-0.4 | 37-0.6 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | | | |
| 2028 | 1 | S | 1994 | 120993 | N | G | C | 1000 | 2000' S OF MP 37 | 3000' S OF MP 37 | 0 | 0 | 0 | 10 | 156 | | | | | |
| 2028 | 1 | S | 1987 | 080487 | N | F | Y | 1000 | 2000 FT S MP 37 | 3000 FT S MP 37 | 9 | 0 | 0 | 0 | 151 | | | | | |
| 2028 | 1 | S | 1984 | 080487 | | F | Y | 1000 | 2000 FT S MP 37 | 3000 FT S MP 37 | | | | | | | | | | |

# Appendix G.
# MS Access Report Selected Photos from Database


***Figure G1:  Photo taken to assist in section relocation (Houston District CFTR 12505)***


***Figure G2: New section paint marking by survey crew (CFTR 13512)***

*Figure G3: Old paint marker (CFTR 2601)*


*Figure G4: Marker showing 1000 ft survey section (Houston District)*

*Figure G5: Random cracking in JCP section (CFTR 17602)*

*Figure G6: Punch-out from a Patch in CRCP (Photo ID #116)*

*Figure G7: Punchout in AC overlay on CRCP (Photo ID #122)*

*Figure G8: Core hole in newly constructed pavement*

**Figure G9: CRCP damaged by early traffic (Photo ID #127)**

***Figure G10: BCO damaged by early vehicle loading***

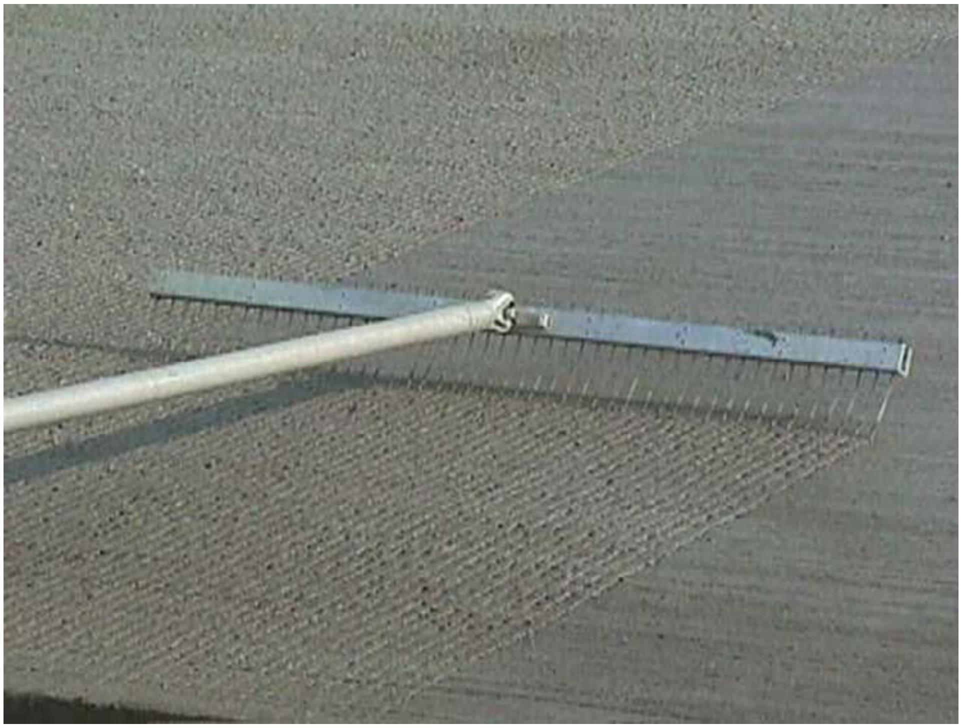


*Figure G11. Survey crew present during tining operation (Photo ID# 132)*


*Figure G12. Possible corner break in JCP (CFTR# 20602)*